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SEVENTY-FOURTH REPORT

(THIRD LOK SABHA)

MINISTRY OF HOME AFFAIRS

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ESTIMATES COMMITTEE
(1964-65)

SEVENTY-FOURTH REPORT

(THIRD LOK SABHA)

MINISTRY OF HOME AFFAIRS

1. **Directorate of Manpower**
2. **Institute of Applied Manpower Research, New Delhi**

LOK SABHA SECRETARIAT
NEW DELHI
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9	11	8	*For* 'all India' *read* 'all-India'
10	14	7	*For* 'pas.' *read* 'past'
43	65	6	*For* 'enterprice' *read* 'enterprise'
47	72 Marginal Heading	2	*For* 'closed' *read* 'close'
48	72	9-10	*For* 'Direc-rate' *read* 'Directorate'
94	6	2	*For* 'experein ce' *read* 'experience'
94	8	1	*For* 'check-Listts' *read* 'Check Lists'
94	8	3	*For* 'go' *read* 'to'

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(1964-65)

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*Elected w.e.f. 18th September, 1964, *vice* Shri Lalit Sen ceased to be a member of the Committee on his appointment as a Parliamentary Secretary.

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Shri B. K. Mukherjee—*Under Secretary*.

INTRODUCTION

I, the Chairman, Estimates Committee, having been authorised by the Committee to submit the Report on their behalf, present this Seventy-fourth Report on the Ministry of Home Affairs—Directorate of Manpower and Institute of Applied Manpower Research, New Delhi.

2. The Committee took evidence of the representatives of the Ministry of Home Affairs on the 6th and 7th October, 1964. The Committee wish to express their thanks to the Joint Secretary and other officers of the Ministry, and the Director, Institute of Applied Manpower Research, New Delhi for placing before them the material and information they wanted in connection with the examination of the estimates.

3. The Report was considered and adopted by the Committee on the 16th February, 1965.

4. A statement showing the analysis of recommendations contained in the Report, is also appended to the Report (Appendix XII).

NEW DELHI;
Dated the 6th March, 1965.
Phalguna 15, 1886 (*Saka*).

ARUN CHANDRA GUHA,
Chairman,
Estimates Committee.

I. INTRODUCTORY

A. Economic Development and Manpower

Economic development of a country, is related to technical and scientific progress which in turn depends on the availability of persons in adequate numbers, with requisite skill.

Significance of Manpower for Economic Development.

Manpower planning is concerned with the methodical designing of policies and programmes for the development and utilisation of the human resources of the nation in the context of economic development.

As the economy develops, the requirements of individuals with more advanced and specialised training and of scientifically trained workers increase, while the need for persons at lower levels of skill and for the semi-skilled and the unskilled steadily diminishes. It takes five years or more to give the basic training needed by an engineer or a doctor, and a much longer period to provide research and practical experience essential for filling positions of greater responsibility. To secure the required out-turn of scientific and technical personnel and build up an adequate foundation of scientific research, it may take a nation, a whole generation.

Need for long term projections.

2. Manpower projections may be short-term, medium term or long-term ranging from one to three years, five years or fifteen to twenty years. While short-term planning is more detailed, it cannot be expected to influence educational or economic planning in any real sense. Medium-term projections, though somewhat less detailed, are more useful for planning educational needs, specially if they form the components of a long-term perspective. A long term plan of development, embodying specific programmes and policies, is an essential condition of successful planning of a country with deep-rooted social and economic problems, a large and growing population and widely varying conditions. The long-term plan should, therefore, supply a general pattern of economic and social development which would take into consideration the needs and possibilities of different areas and harmonise those features into an integrated endeavour for national advancement.

B. Determinants of Manpower Situation

Growth of Population.

3. The manpower situation at any given time is the result of interplay of three dynamic forces;

(i) the growth of population and the working force;

(ii) the development and diversification of the nation's economy and the pattern of employment; and

(iii) the development of education and training.

There has been a continuous rise in population since 1921 as will appear from the statement below, and there are no positive indications yet of any deceleration of the rate of population growth:

Census Year	Population (in millions)	Decennial increase (percentage)
1901	236.3	..
1911	252·1	+5·73
1921	251·4	—0.31
1931	279·0	+11·01
1941	318·7	+14·22
1951	361·1	+13·31
1961	439·2	+21·50

According to present estimates, the population may increase to 494 million by 1966; 558 by 1971 and 629 million by 1976.

Age Group Distribution.

4. According to 1961 census, the percentage distribution of population by broad age-groups is as follows:

Age-group	Percentage Distribution		
	Males	Females	Total
0—14	40·92	41·15	41·03
15—59	53·58	53·01	53·30
60 and above	5·46	5·80	5·63
Age not stated	0·04	0·04	0·04
TOTAL	100·00	100·00	100·00

Since 1951, the percentage of persons in age-group 0—14 has increased from 38.36 to 41·03 and in age-group 60 and above from 3.21* to 5.63 while the proportion in the age-group 15—59 has declined from 58.42** to 53.30. Thus, only a little over half the population is at present in the normal working age-group. These changes are broadly indicative of the fact that while the birth-rate has remained constant, the death-rate has continued to decline, particularly, at younger ages.

According to a note furnished to the Committee by the Institute of Applied Manpower Research, New Delhi about the nature, characteristics and utilisation of human resources in the country, the age distribution of population in advanced countries is such that the younger age-group (0—15) constitutes only about 25 to 30 per cent of their population as against 43 per cent in India. The working age-group constitutes 55 to 65 per cent of the population in advanced countries as against nearly 50 per cent in India. The superannuation age-group constitutes about 10 per cent of the population in advanced countries as against 6 to 7 per cent in India.

Employment Pattern.

5. Nearly 70% of the total number of workers in 1961 were engaged in cultivation nor employed as agricultural labourers and only a little over 27% in non-agricultural categories. As against this, the percentage of workers engaged in agricultural activities is very low in most of the advanced countries. The United States of America has only 10 per cent of workers engaged in agriculture.

Even in Japan, which has very high population in relation to cultivable land, the percentage of workers employed in agriculture is only 41. The statement below shows the distribution of the working population in India

*Age-group in 1951 was 65+.
**Age-group in 1951 was 15-64.

by nine industrial categories and compares the census figures of 1961 with those of 1951:*

Category	1961 Census		1951 Census	
	Workers in millions	Percentage to total workers	Workers in millions	Percentage to total workers
(1) Cultivators	99·51	52·97	69·79	50·04
(2) Agricultural labour	31·48	16·76	27·51	19·72
(3) Plantations, fishing, forestry, livestock and hunting	6·38	3·40	3·33	2·39
(4) Mining and quarrying	0·87	0·46	0·58	0·42
(5) Manufacture including household industry	17·57	9·35	12·74	9·14
(6) Construction	2·06	1·09	1·33	0·95
(7) Trade and Commerce	7·64	4·07	7·30	5·23
(8) Transport, storage and communications	3·00	1·60	2·13	1·53
(9) Other Services	19·34	10·30	14·76	10·58

The Committee observe that there has not been any appreciable change in the aggregate percentage of cultivators and agricultural labour to the total number of working force in the country during 1951 *to* 1961. It has *only slightly come down from* 69·76 *per cent in* 1951 *to* 69·73 *per cent in* 1961.

It would thus be patent from the above that no progress worth the name has been made so far in reducing the percentage of cultivators and agricultural labour.

*It should be pointed out that 1951 census figures are not strictly comparable with those of 1961 because of differences in (a) the use of terms and definitions *e.g.* 'self-supporting persons' and 'earning dependents' in 1951 and 'working persons' in 1961, and (b) in the scheme of industrial classification. The method adopted for abstracting and classifying the working population for 1951 census in terms of the 1961 scheme has been explained in the Appendix to Census of India Paper No. 1 of 1962 published by the Registrar General and Census Commissioner for India. While the figures given above for 1951 have to be interpreted with some degree of caution, they may be regarded as broadly comparable with 1961.

The Committee would suggest that Government should assess the surplus manpower which is either unemployed or underemployed in agriculture so that the extent and magnitude of unemployment problem can be known.

The Committee would stress that Government should take concerted measures to bring down the working force dependent on agriculture to the optimum level.

Development of Education and Training.

6. During the Second Plan period, a series of steps were taken up for expanding facilities for education in engineering, agriculture, veterinary, medical and other branches for meeting the likely requirements for such personnel during the Third Plan period. Further expansion has taken place in the Third Plan for meeting the requirements for such personnel in the Fourth and later Plans.

In this context, the following extract from the Memorandum on the Fourth Five Year Plan is significant:

> "The overall plan outlay of Rs. 560 crores for Education is likely to be fully spent and the physical targets practically at all the stages of education are likely to be exceeded. However, this rapid expansion has out-stripped the resources of trained teachers, buildings and equipment. It has not been possible to provide sufficient scholarships. The maladjustment between the educational system and the socio-economic needs of our developing economy has further increased. A result of this has been the increase in the number of educated unemployed side by side with shortages of trained personnel. Another aspect which causes concern is the heavy wastage at practically all stages of education which is continuing at a very high level."

The number of educated persons borne on the live register of the employment exchanges has increased from 2·4 lakhs at the end of 1956 to 7,08,356 at the end of 1962. At the end of December, 1963, it has further gone up to 7,39,066. At the same time, shortages were experienced for professional and technical personnel as well as craftsmen and production process workers. Among the professional and technical workers, shortages were mainly reported for civil, mechanical and electrical engineers, overseers, surveyors,

medical and surgical specialists, nurses, pharmacists and secondary school teachers. Among the craftsmen and production process workers, shortage occupations included fitters, turners, moulders and electricians. Employers also reported shortages of stenographers and typists.

The Committee consider it regrettable that as a result of 'maladjustment between the educational system and the socio-economic needs of our developing economy', there has been increase in the number of educated unemployed side by side with shortages of trained personnel.

Problem spotted in first Five year Plan.

7. It may be recalled that the root cause of this phenomenon had been correctly spotted out in the very First Five Year Plan. The Plan stated *inter alia* that:

> "The absence of adequate facilities for technical and vocational education results in a much larger number of students going in for general education than is justified by the requirements of the country or the tastes and aptitudes of the pupils. The undue emphasis on the academic and theoretical aspects of education retards the development of the practical sense, initiative and resourcefulness among large number of students. One result of this is that educated people tend to depend too much on employment by Government or commercial concerns which can absorb only a limited number. This also leads to undue strain on the resources of universities, as students, on the completion of secondary education, tend to drift to universities in the absence of any other alternative. Education should, therefore, be given a more practical bias from the very beginning and at the post-secondary stage there should be greater adjustment between the needs of the country and the output of educational institutes."

The Committee regret to note that while the planners, as early as 1951, were able to lay their finger on the root cause of this phenomenon, proper remedial action has not been taken. This may well be due to lack of detailed analysis of the problem and failure to implement a concerted programme to achieve the objective.

8. The Committee reproduce below a comparative statement showing the percentage distribution of university enrolment (faculty-wise) in selected countries. Faculty-wise University Enrolment.

Country	Year	Percentage Distribution of University Enrolment (Faculty-wise)					
		Engineering	Medical	Agriculture	Natural Sciences	Humanities including social sciences	Others
U.S.S.R.	1959	34	8	12	..	6	40 (Includes Natural Sciences)
Federal Republic of Germany	1959	15	13	2	13	33	24
Japan	1959	14	6	4	4	49	23
United Kingdom	1958	10	17	2	24	40	7
France	1958	7	18	1	27	26	21
India	1963	5	4	3	32	55	1

The Committee observe that in comparison with advanced countries, India is far behind in respect of technical and medical education while there is preponderance in humanities and natural sciences in our university enrolment pattern.

9. In their Tenth Report (Second Lok Sabha) on Technical Education (Part I) presented to the Lok Sabha in April, 1958, the Committee had expressed the opinion that the Ministry of Education in consultation with the Planning Commission should determine an ideal distribution pattern of studies looking to the national requirements. The Committee were informed in April, 1960 that the suggestion required comprehensive examination of the structure of education as a whole and inter-relationship of the facilities for different forms of education at all levels. Earlier Observation of Estimates Committee.

Asked if the Directorate of Manpower had considered the above problem, the Committee have been furnished with the

following reply:

> "No. It is felt that a pattern can be evolved usefully only in relation to a long-term projection of the development of the economy over 20—25 years, which is not available so far."

The Committee regret to observe that no serious effort has been made by various governmental agencies concerned with manpower planning to work out long-term projections which may facilitate the identification of the vital problems. The Third Plan has rightly pointed out that 'it may take twenty years or more to secure the required out-turn of scientific and technical personnel and build up the foundations of scientific research.'

Admittedly, the education and training of technical and professional personnel take considerably long time. The Committee feel that manpower planning should have been taken up well in advance of the formulation of detailed plans and programmes of economic development.

The Committee are of the view that the organisation charged with manpower planning should have the expertise and the requisite authority to formulate and execute manpower policy in keeping with the goals of economic development.

The Committee would in particular like to stress the need for the formulation of a sound educational plan for the next fifteen years which may remove the widening 'maladjustment between the educational system and the socio-economic needs of our developing economy' which has resulted in the increase in the number of educated unemployed side by side with shortages of trained personnel.

II. MANPOWER COMMITTEES

A. *Ad hoc Committees*

10. As early as in 1947, the Government of India appointed a Scientific Manpower Committee to assess the requirements of different grades of scientific and technical manpower for the next ten years and to make recommendations regarding the action to be taken to meet these requirements. The Committee did not have before it adequate data regarding the future growth of economy. It carried out a survey of the current and projected activities of industrial establishments, educational institutions and government departments and on the basis of data thrown up by the survey, empirical ratios between levels of production and manpower requirements were developed.

Scientific Manpower Committee 1947.

11. The Engineering Personnel Committee (1956) was appointed by the Planning Commission to estimate the probable requirements of engineers and technicians for implementing the Second Five Year Plan. It estimated the personnel requirements on the basis of cost involved in the execution of various schemes. The relationship was expressed as a ratio between expenditure and engineering manpower demand. It was found that an all India ratio would not be realistic and correction factors would need to be applied to different regions and States to allow for special conditions. Ratios between expenditure and manpower demand could, however, not be prepared in all cases and therefore ratios of production and personnel were derived to cover them.

Engineering Personnel Committee, 1956.

12. The River Valley Projects Technical Personnel Committee (1956) re-examined the relationships derived by the Scientific Manpower Committee and came to the conclusion that technical personnel requirements can be correlated to volume of production in a well-established industry but in the case of river valley projects involving construction, irrigation and power generation phases, it was almost impossible to correlate personnel requirements

River Valley Projects Technical Personnel Committee, 1956.

to any other variable such as area irrigated or power generated. In these cases it might be appropriate to use an expenditure/personnel ratio.

Agricultural Personnel Committee, 1957.

13. The Agricultural Personnel Committee was appointed in 1957 for assessing the requirements of trained personnel for the whole of the agricultural sector including agriculture, animal husbandry, dairying, forestry, community development and co-operation during the Third Plan period. The Committee did not have before it any definite indication of the scope and size of the Third Plan or of the resources that might be available for development in the agricultural sector or of the order of priorities within the sector. The Committee proceeded on the broad presumption that the programmes of development taken up in the agricultural sector during the Second Plan would be continued and accelerated further in the Third Plan so as to ensure that there was rise in agricultural production at the minimum rate of 5 per cent per year. The patterns of staffing proposed by the Committee were not fully accepted by Government chiefly on the ground of limitation of resources and the estimates prepared by the Committee were revised to some extent and necessary steps were taken for development of training facilities on the basis of the revised estimates.

Working Group on Technical Education and Vocational Training, 1960.

14. The Working Group on Technical Education and Vocational Training (1960) issued detailed check-lists to various governmental agencies for furnishing estimates of future demand in relation to the probable expansion of activities during the Third Five Year Plan (1961—65) and compiled information on probable requirements. After taking into account pas trend as well as future estimates, the Working Group concluded that certain ratios between the demand for engineering manpower and (i) volume of investment, (ii) volume of additional total employment, and (iii) total non-agricultural employment could be derived and used for making projections for the Fourth Five Year Plan (1966—71).

General approach of *Ad hoc* Committees.

15. *It appears from the general working of various committees appointed so far that attempts are being made from time to time to deal with only specific aspects of manpower problem, but without any attempt to have an integrated approach.*

On the basis of ad hoc *enquiries, these committees have tried to work out manpower demand projections by correlating them to measurable variables of economy, e.g., production/output levels, expenditure levels, investment targets, etc.*

The Committee are concerned to note that two of the Committees, e.g., the Scientific Manpower Committee, 1947 and the Agricultural Personnel Committee, 1958 are stated to have respectively inadequate data regarding future growth of economy, and no definite indication of the scope and size of the Third Plan or the resources that might be available for development of the agricultural sector or the order of priorities within the sector.

They hope that committees set up to go into manpower requirements in future would have at their disposal all the requisite data necessary for the purpose.

*The Committee are convinced that there is need for having a high powered body to ensure a well coordinated programme for assessing manpower requirements in diverse sectors on a continuing basis and for taking adequate action.**

B. *Criteria of Projecting Manpower Demand*

(a) *General Criteria*

Chief Factors for Estimating Requirements of Personnel.

16. Asked to state the basis for estimating the personnel requirements in various fields of economic activity, the Committee have been informed that in assessing the requirements of personnel in different categories, consideration has to be given mainly to three factors:

(i) rate and direction of the growth of economy;

(ii) rate of attrition of the existing personnel; and

(iii) likely changes in norms of staffing due to changes in technology and the size and organisation of existing units.

It is a moot point whether these factors provide accurate yardstick for projecting manpower demands in a developing economy like India. This vital problem needs systematic research and exchange of ideas and experiences with other developing nations.

*Please see para 33 of the Report where this idea has been elaborated.

Since the requirements of personnel are reckoned mainly in terms of assumptions and possibilities, based on the past and current experience, it is obvious that unforeseen demands will continue to be thrown up on account of the rapid technological advances taking place within the country and abroad, and the growing needs of the economy. It will, therefore, be of particular importance during the Fourth and Fifth Plans to make periodic appraisal of the manpower situation in each of the fields so as to ensure adequate and timely remedial action. For these purposes, the technique and methodology of Manpower Surveys have to be developed both in scope and content with gain in experience and expertise.

(b) *Criteria of Projecting Engineering Manpower Demand*

Assumptions made for assessing Fourth and Fifth Plan Requirements.

17. The Committee have been informed that the estimates of requirements of engineering personnel during the Fourth and Fifth Plans have been initially prepared on the following assumptions:

(i) the total investment will be of the order of Rs. 22,000 crores for the Fourth Plan and Rs. 34,000 crores in the Fifth Plan (at 1961 static prices);

(ii) the pattern of investment would be more or less the same as in the Third Plan; and

(iii) the norms of staffing obtaining in the Third Plan would also not be altered greatly during the Fourth and Fifth Plans.

According to a theory propounded by the Institute of Applied Manpower Research, New Delhi, 'a reasonably satisfactory forecast of growth can be made by a rather elaborate process which involves first the division and subdivision of employed engineering manpower into segments and then the settlement of a segmental yardstick relating to the forecast of the future requirements in each segment either to a related investment target or to a related target of production development. A global forecast of growth can be useful for practical planning purposes when it is arrived at by a process of aggregation of such segmental forecasts of growth, supplemented by *ad hoc* assumptions

of proportionality in respect of these segments for which necessary data are unavailable'.

The data necessary for arriving at a forecast in this manner for the Fourth and Fifth Plan periods are not available at present. Meanwhile, the Institute has devised a provisional yardstick for comparing the growth of engineering manpower in each of the three successive plan periods and the corresponding total plan investments.

The Ministry have admitted that the overall estimates of Plan requirements are in the nature of rough approximations indicating the broad dimensions or magnitude of the requirement. They also do not have any means of ascertaining in precise terms the extent of the actual requirement at any one time. *The Committee consider it unfortunate that engineering personnel plans have been formulated on 'rough approximations' without taking into account the actual requirements. They are of the view that Government should pay immediate attention to the question of devising a suitable methodology of forecasting engineering manpower requirements so that a realistic programme can be made.*

Time has come when the demand for personnel has to be identified with greater precision and projections of requirements worked out not only by broad categories such as engineers, agricultural scientists, etc., but to be broken into diverse segments, e.g., design engineers, plant erection and construction engineers, production engineers, chemicals engineers, etc. to make for more realistic assessment.

C. *Check-Lists for Information Regarding Engineering Manpower Requirements*

Need for consultation with non-official organisations.

18. Apart from methodological considerations, the estimates of manpower requirements are reviewed from time to time in the light of additional information that may become available. In 1960-61, the Working Group on Technical Education and Vocational Training collected detailed information from various Ministries regarding their technical manpower requirements for the Third Plan by issuing a Check-List. Various analytical studies were made on the

basis of this information and norms of requirements in relation to investment, non-agricultural employment etc. were worked out.

In planning for the Fourth Plan, the Directorate of Manpower propose to carry out a similar exercise. They hope to recheck the norms evolved by the Working Group on Technical Education in 1960-61 as well as to furnish a factual basis for projecting the requirements for subsequent Plan periods.

The Committee would suggest that the Check-Lists prepared by the Directorate of Manpower should not be limited only to Government departments and public undertakings but should bring within the scope of its enquiry leading all-India non-official organisations of employers, manufacturers, engineers, medical practitioners, chartered accountants etc. who are vitally concerned with the problem of manpower.

D. *Standing Committees/Sub-Groups*

Informal Steering Group on Manpower.

19. An informal Steering Group on Manpower was set up in 1957 for the purpose of coordinating and guiding manpower projects at the Centre. The Group consisted of representatives of the Planning Commission, Ministry of Education, Ministry of Scientific Research and Cultural Affairs, Ministry of Commerce and Industry and Ministry of Labour and Employment.

The Committee are informed that the informal Steering Group has not been functioning actively since the latter part of 1962 as 'more or less similar role is being performed by the Technical Manpower Committee and the Sub-Group on Manpower, which has been set up at the instance of the Planning Commission with the Director of Manpower as Chairman'.

Technical Manpower Committee.

20. In November, 1962, a Technical Manpower Committee was set up 'to deal with all manpower problems relating to technical personnel in the context of the Emergency for dealing with matters concerning technical manpower and in particular to review the existing plans and programmes for training of technical personnel, to initiate necessary proposals for the augmentation of the existing

programmes, to introduce accelerated training courses and, where necessary, to modify the existing curricula for technical education, and training'. The Committee includes representatives of the Defence Ministry, other concerned Ministries and the Planning Commission. Various Working Groups were set up by the Committee to deal with specific problems *e.g.* engineering personnel, medical personnel, craftsmen training programmes, procurement of training equipment from abroad etc. The Directorate of Manpower provides the secretariat of the Committee and coordinates follow up action taken by various Ministries and government agencies in the implementation of the decisions of the Committee. The important decisions taken by the Committee are given in Appendix I.

Steering Group on Manpower Reconstituted on Formal Basis.

21. Recently, Government have felt that 'there has been considerable increase in the range and volume of manpower work as also in the number of central agencies which are concerned with different aspects of the problem of development and utilisation of managerial, scientific and technical manpower' and therefore it has been decided to set up an inter-departmental committee to be called 'the Steering Group on Manpower' for coordination of manpower work.

The Group will concern itself, in particular, with policies and programmes relating to development and utilisation of scientific, technical and managerial manpower including technical personnel requirements of the Defence sector and of the Central undertakings.

A copy of the government resolution setting up the Steering Group on Manpower and its composition, is given in Appendix II.

Planning Commission Sub-Group on Manpower.

22. In the context of the formulation of the Fourth Plan, the Planning Commission have also constituted a number of Working Groups and Sub-groups to prepare a broad picture of the development programme in different sectors. The responsibility for overall manpower planning has been entrusted to the Sub-group on Manpower. It coordinates the manpower requirements of various Ministries and works in close collaboration with the other Working Groups.

The constitution of the Sub-group on Manpower is as follows:

(1) Director of Manpower	Chairman
(2) Director General of Employment and Training	Member
(3) Director of Employment Exchanges	-do-
(4) Joint Educational Adviser, Ministry of Education	-do-
(5) Director, Education Division, Planning Commission	-do-
(6) Chief, Perspective Planning Division, Planning Commission	-do-
(7) Chief, Labour and Employment Division, Planning Commission	-do-

The Sub-group on Manpower is thus an *ad hoc* body for the specific purpose of coordinating the manpower aspects of different programmes evolved by various Working Groups for the Fourth Plan period.

Now that Government have formally constituted an inter-departmental committee to be called the Steering Group on Manpower for coordination of manpower work which in fact is the same 'Informal Steering Group on Manpower' referred to earlier in paragraph 19 *with enlarged composition and functions, the exact scope as also the utility of work of the Sub-group on Manpower needs to be re-examined so as to avoid overlapping of functions between the two bodies.*

III. DIRECTORATE OF MANPOWER

A. *Historical Background*

23. The Engineering Personnel Committee (1955-56), which was appointed to estimate the probable requirements of engineers and technicians for implementing the Second Five Year Plan (1956—61), drew attention to the problem of coordination in the manpower field and emphasised the need for setting up of a permanent machinery for focusing attention on manpower problems and for ensuring that a coordinated and authoritative manpower policy was laid down. The Report of the Engineering Personnel Committee *inter alia* stated that:

Recommendation of Engineering Personnel Committee (1955-56).

> "The object that we have in mind could best be served by setting up a Technical Manpower Committee of the Cabinet, because this is a field where policy and coordination affect almost all Ministries and decisions have to be taken at the highest level. The Cabinet Committee should be served by a corresponding Committee of Secretaries. The latter Committee will shoulder the executive functions of the Cabinet Committee and should, in turn, be aided by competent staff. For this purpose, we recommend that a Technical Manpower Division be created in the Planning Commission. This Division should be put in charge of a special officer who is made responsible for the collection and processing of the necessary information and for presenting proposals to be considered in the two Committees."

B. *Location of Manpower Organisation*

24. The Committee are informed that the question of location of the Directorate of Manpower was 'carefully considered in 1956 by the Committee of Economic Secretaries and also the Cabinet'. The view which prevailed finally was that 'neither the Cabinet Secretariat nor the Planning Commission was quite suitable for the discharge of functions which were in part of an executive character and involved among other things coordination of policies

Setting up of Directorate of Manpower in Ministry of Home Affairs.

bearing on recruitment policy and utilisation of personnel'. It was considered that a coordinating body like the Directorate of Manpower should be located in a Ministry which was 'a neutral one (that is, not identified with any one type of manpower programme or activity), and yet in a favourable position to secure the cooperation of other agencies at the Centre and also the State Governments.' The Ministry of Home Affairs was, therefore, considered 'the obvious choice' having regard to the above considerations.

The Directorate of Manpower was accordingly set up under the Ministry of Home Affairs O.M. No. F.1|8|56-Serv. Reorg., dated the 19th November, 1956 (Appendix III).

C. *Functions*

Directorate to maintain coordination and liaison.

25. The order setting up the organisation specifies that the Directorate will provide the Secretariat for the Cabinet Committee and will be concerned with the implementation by the Ministries and other agencies concerned of the decisions of the Committee. It will not duplicate or take over functions at present being performed elsewhere, but will maintain liaison with the various Ministries and other agencies at the Centre and with the State Governments. The Directorate is required, particularly, to keep in close touch with the Divisions of the Planning Commission dealing with manpower and with the Scientific Personnel Committee of the Council of Scientific and Industrial Research.

The Committee are informed that 'the Directorate of Manpower is directly associated with 28 committees, Working Groups etc.', a list of which is given in Appendix IV.

Implementation of Cabinet Decisions.

26. One of the functions of the Directorate of Manpower is stated to be 'to secure implementation by the agencies concerned of the decisions of the Cabinet on manpower planning and organisation both to meet the requirements of the immediate future and on a long-term basis.' In this connection, the Committee have been informed as follows:

> "In practice, this implies follow up of the decisions taken with the concerned Ministries and other agencies. Where a Cabinet decision is not being implemented the matter could no doubt be reported to the Cabinet for further instructions.

There has, however, been no occasion for the Directorate to take resort to this."

27. As regards the role of the Directorate of Manpower in the matter of initiating and coordinating policies and manpower programme relating to private sector, the Committee have been informed that 'allowance is made for the requirements of the private sector in assessing the total demand for technical personnel for the Five Year Plans as also in formulating plans and programmes for the development and expansion of technical and vocational education and training.' The Directorate does not, however, deal specifically with any manpower problem of the private sector as such.

Requirements of Private Sector not catered to specifically.

As regards the academic institutions in the country, the Directorate 'has been maintaining liaison only with the Council of Scientific and Industrial Research and the University Grants Commission.' It does not have any contact or liaison with Universities or other academic institutions as such.

D. *Role of Administrative Ministries*

28. As regards the role of the administrative Ministries, the Committee have been informed that the Ministry of Labour and Employment is responsible for the administration of the national system of employment exchanges, conduct of labour market and employment and unemployment studies, and for craftsmen training and apprenticeship programmes.

Labour and Employment.

29. The Ministry of Education is concerned generally with the important problem of development and adaptation of the educational system to meet the present and future manpower needs of the nation.

Education.

30. The Ministry of Agriculture looks after agricultural education and training.

Agriculture.

31. The Ministry of Health looks after medical and health training programmes.

Health.

32. The Ministry of Community Development and Co-operation deals with training programmes in the community development and allied fields.

Community Development and Co-operation.

Thus, practically, all Ministries are concerned with the problem of meeting their own manpower requirements

through programmes of recruitment, in-service training and improved utilisation. The representative of the Ministry admitted in his evidence before the Committee that:

> "The Directorate of Manpower does not have the authority to take decisions having a bearing on the working of other Ministries."

Planning Commission.

33. The Planning Commission is charged with the functions of making an assessment of the material, capital and human resources of the country, including technical personnel, and investigate the possibilities of augmenting such of these resources as are found to be deficient in relation to the nation's requirements. It also assesses the progress made on the various schemes in order to find out whether there are deviations; whether the purpose and objects are being fulfilled or whether any thing is taking place which would make planning difficult later on. The representative of the Planning Commission stated before the Committee that there was no division in that organisation, specifically dealing with manpower. This function is being performed by the Planning Commission through the Steering Committee on Manpower attached to the Ministry of Home Affairs with which, it is 'very closely associated'. But, recently 'the Planning Commission has been feeling that for dealing with manpower problems a special small cell should be created.' The Committee have been informed that the proposals are still at the stage of formulation. However, the intention is to keep the proposed cell as small as possible and avoid duplication of work with other organisations in the field.

The planning and administration of a manpower programme is a task of great complexity requiring close and continued collaboration between various agencies at the Centre and in the States, especially those responsible for execution of planned development as well as leading institutions in the country engaged in scientific, economic and social research.

While the Planning Commission may be able to determine the broad strategy of manpower development in relation to the nation's economic goals, a continuing review of shortages and surpluses of trained manpower and a systematic analysis of the factors affecting the demand for skilled personnel in different categories is very much needed.

The Committee are of the opinion that the ultimate object should be to develop a high-powered organisation for Manpower Administration, capable of formulating and executing manpower plans, policies and programmes in a systematic manner and on a continuing basis. At the same time, it should coordinate the work of different keygroups and take positive steps to keep pace with the demand for trained manpower generated from time to time as a result of progress of planned schemes.

It should be the function of this organisation to (i) assess the requirements and availability of manpower resources of the public and private sectors within the framework of the perspective plan prepared by the Planning Commission; (ii) watch the implementation of policy decisions and undertake evaluation of their execution from time to time; (iii) achieve effective coordination of various governmental agencies dealing with manpower training and resources; and (iv) keep in close touch with and consult non-official research organisations, universities, etc. regarding criteria to be adopted for accurately assessing requirements and availability of manpower resources.

The organisation for Manpower Administration should make every effort in availing of the services of experts and consultants in this highly specialised field, but the effort in the main should be to build up a cadre of analysts and strategists who are well-versed in the Indian scene and attuned to the needs of a developing economy.

IV. ASSESSMENT OF TRAINED MANPOWER

Professional and Technical Manpower.

34. In this chapter, the Committee propose to set out briefly the present estimates of requirements of personnel and the training programmes provided in the Third Plan for such fields as engineering, medical and public health, agriculture and rural development.

A. *Engineering Personnel*

(a) *Third Five Year Plan*

Graduates and Diploma holders.

35. The requirement of engineering personnel may be considered at three principal levels:

(i) graduates;

(ii) diploma-level technicians; and

(iii) skilled engineering craftsmen.

The requirements and out-turn of graduates and diploma holders during the Second Plan period and the estimates for the Third and Fourth Plans as published in the 'Third Five Year Plan' are given below:

	Second Plan		Third Plan		Fourth Plan	
	Requirement	Out-turn	Requirement	Out-turn	Requirement	Out-turn
Graduates	29,000	26,000	51,000	51,000	80,000	80,000
Diploma holders	56,000	32,000	1,00,000	82,000	1,25,000	1,27,000

The intake and out-turn of engineering personnel since 1950-51 has been as follows:

	Period				
	1950-51	1955-56	1960-61	1962-63	1965-66 target*
(1) *Degree Course*					
(*a*) No. of institutions	49	65	102	114	117
(*b*) Intake	4,119	5,888	13,824	17,074	19,137
(*c*) Out-turn	2,198	4,017	5,703	8,426	12,000

	Period				
	1950-51	1955-56	1960-61	1962-63	1965-66 target*
(2) *Diploma Course*					
(*a*) No. of institutions .	86	114	195	231	263
(*b*) Intake .	5,903	10,484	25,801	30,826	37,391
(*c*) Out-turn .	2,478	4,499	7,969	12,046	19,000

*The intake targets for 1965-66 have been revised upward to 27,200 for degree courses and 50,700 for diploma courses.

The Committee have been informed that the actual supply during the Second Plan period was approximately 26,000 graduates and 32,000 diploma holders. The deficiency in supply was met chiefly by re-employment of retired personnel or extension of their term of employment, relaxation of minimum qualifications for certain categories in short supply especially in regard to experience, employment of experienced technicians and other technical workers in higher engineering posts, in-service training in industry of science graduates for filling up posts of diploma level technicians in certain categories in which training facilities were either not available or available only to a very limited extent.

Defence needs

36. The Committee have been informed that the estimates for the Third Plan were drawn up with great care, but they did not make allowance for any substantial increase in the Defence demand which was intimated in November, 1962 in the context of the Emergency.

As regards the extent to which the technical manpower which would normally have been absorbed in civilian vocation was diverted to meet the additional requirements of defence, the Committee have been informed that it is difficult to specify the information in any precise manner. It is, however, admitted that there has been 'some diversion' which has not been large because of shortfalls in the recruitment of engineering personnel to the Army.

Craftsmen.

37. The requirements of craftsmen during the Third Plan are estimated at nearly 1.3 million, about 810,000 being in engineering trades and the rest in non-engineering trades. In regard to technical personnel at lower level, special arrangements were made during 1963-64 for

the training of engineering craftsmen, wireless operators, radio-mechanics etc. in civilian training institutes for meeting the needs of the defence sector. At the same time, steps were taken for expanding facilities for such training in defence establishments. Thus, in respect of these categories of personnel also, the requirements of the defence sector have been met largely by the training of additional personnel in civilian establishments and there has not been any significant diversion.

Shortages continue in spite of training facilities augmented.

38. As a result of various steps taken in 1963 to accelerate engineering courses and to further augment training facilities, the Committee have been informed that the supply 'appears to have fairly caught up with demand over large parts of the country', but difficulties are still being experienced by many State Governments and the army authorities in securing the required number of engineering personnel. Shortages have also been reported in the industrial sector of several States.

(b) *Fourth Five Year Plan*

Graduates.

39. It has been estimated that the additional requirements of graduate engineers for the implementation of Fourth Plan programmes would be approximately 89,000. In addition, the demand for non-plan sectors, *e.g.* defence and other sectors may be approximately 17,000. The total requirement would, thus, be of the order of 1,06,000.

The out-turn of graduates from engineering colleges is estimated to be 86,000. Approximately, 10% of the requirement of graduates is expected to be met by the promotion of diploma-level technicians. This would, however, still leave a gap* of 8,000 to 9,000 graduate engineers.

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*At the time of factual varification of the Report, the Ministry have intimated as follows:

"In regard to the estimates of requirements of Graduate engineers, it might be stated that these estimates were prepared in the Directorate of Manpower when a firm outline of the Fourth Plan was not available. In the Fourth Plan Memorandum, circulated by the Planning Commission, the additional requirement of Graduate engineers has been placed at 75,500 only. This implies that there may not be a significant shortage of Graduate engineers.

Similarly, regarding Diploma-level technicians, the Fourth Plan Memorandum places the estimate at 1·51 lakhs against the Directorate's earlier estimate of 1·77 lakhs".

40. The total requirement of diploma-level technicians during the Fourth Plan, is estimated to be 1,77,000 for plan programmes* and 16,000 for non-plan sector. The total availability of diploma-holders from polytechnics is expected to be of the order of 1,14,000, assuming 50% wastage rate. At the same time, approximately 25% of the demand is expected to be met by science technicians with suitable training. Diploma-level technicians.

41. The provisional estimates of requirement of engineering craftsmen during the Fourth Plan period have been placed at 16-17 lakhs. It is expected that out of this, about 12 lakhs would be skilled artisans and 5-6 lakhs semi-skilled operatives. The extent to which the total requirements can be met by institutional training is largely governed by the availability of finance, the administrative feasibility of expanding the training programmes and availability of equipment and instructors. Craftsmen.

The Committee have been informed that during the Third Plan period, about 30% of the total demand would be trained in the Industrial Training Institutes. The Directorate General of Employment and Training have also taken advance action for doubling the enrolment in industrial training institutes from 100,000 in 1965-66 to 200,000 in 1970-71. The likely out-turn during the Fouth Plan would, therefore, be approximately 7.5 lakhs or 45% of the total requirements.

42. *The Committee note with concern that there would be a sizeable gap between demand and supply position of engineering personnel during the Fourth Plan. The Committee would stress that Government should ensure that proper ratio among the three main categories of technical personnel, e.g. graduates, diploma holders and craftsmen is maintained in desirable proportion in keeping with the requirements of the industry and advances made in the technological field.* Shortages expected in all categories.

The Committee are struck by the wide gap existing at present between the intake of students in the engineering institutions for degree and diploma courses and their outturn which has resulted in wastage of manpower resources and also a shortfall in available number. They are convinced that it should be possible to reduce this

*Please see foot-note below paragraph 39.

high percentage of failure by intensifying efforts to improve teaching and practical training. They would also suggest that the feasibility of imparting training to students in evening classes and through correspondence courses as done successfully in other leading countries like Britain, Soviet Russia and United States should be fully gone into and courses suitable to Indian conditions evolved.

As regards the diploma courses, Government should also examine whether it is possible to run intensive "sandwich" courses for skilled and highly skilled artisans to equip them to become diploma holders.

The Committee understand that in countries like Britain and United States, the leading industrial organisations run systematic courses for in-plant training which equip an apprentice joining at the shop level to rise through merit and intensive application to the highest rung of management. The Committee feel that though some significant effort has been made by some public undertakings, the private sector has by and large not paid proper attention to this vital aspect of manpower training. The Committee would suggest that Government should take direct interest in the matter and encourage the leading organisations of employers and manufacturers to run either singly or jointly suitable courses for in-plant training. The Committee would stress that the training should not be limited to the requirements of the Apprenticeship Act, 1961, *but should cover the whole gamut of technical personnel employed in industrial establishments, with payment of suitable stipends.*

As regards the shortfall in the category of craftsmen, the Committee feel that as craftsmen are the backbone of industrial development, no effort should be spared to train up the requisite number. They see no reason why it should not be possible to run either intensified courses in the polytechnics and industrial institutions or to suitably expand their capacities or multiply their number so as to ensure that there is no dearth in the basic category of craftsmen.

Apart from the aforementioned sizeable gap between the demand and supply of engineering personnel, the Committee are afraid that if the various assumptions made in working out the requirements and availability of engineering personnel do not come up to expectations, the position might become more acute.

B. *Medical Personnel*

43. Medical personnel broadly comprise the following three categories of personnel: **Broad categories and method of assessment of requirements.**

(i) Doctors;

(ii) Nursing personnel, including graduate nurses, auxiliary nursing personnel and nurse mid-wives; and

(iii) Para-medical personnel.

44. The table below shows the increase in the number of medical personnel during 1950-51 to 1965-66 (targeted): **Expansion during Five Year Plans.**

	Period			
	1950-51	1955-56	1960-61	1965-66 (targeted)
(1) *Doctors*				
(*a*) No. of institutions	29	41	60	75*
(*b*) Intake	2,675	3,660	5,874	8,000*
(*c*) Out-turn	1,557	2,743	3,387	4,830
(2) *Nurses*				
(*a*) No. of institutions	141	234	250	350
(*b*) Intake	Not available	3,200	4,000	6,200
(*c*) Out-turn	Do.	2,160	2,800	4,500

45. The Committee have been informed that reliable information regarding the number of doctors likely to be in position in the medical and public health cadres of the Central and State Governments, local bodies and medical institutions, is not available. **Number of Doctors.**

The total number of active doctors at the end of the Third Plan period has been estimated at 84,000. This includes 5000 to 6000 qualified doctors who may be outside India. About 40 to 70 per cent of doctors in the different States are private practitioners. It can be roughly stated that the number of doctors in position in Government and

*By the end of Third Plan (1965-66), the number of medical colleges is expected to rise to 80 and annual admissions to 11,000.

local body services at the end of the Third Plan period, is of the order of 32000 to 35000.

Persistent shortages of doctors have been reported from almost all States, except West Bengal during the last 4 to 5 years. According to reports received in the Directorate of Manpower from State Governments and Union Territories, 3786 posts of doctors were vacant in the State Medical/Public Health Services at the end of 1961. This figure does not include vacant posts in medical colleges or under local bodies. On present indications, it seems likely that at the close of the Third Plan, the number of unfilled vacancies may reach the order of 5500 to 6000, including posts in medical colleges, local bodies, private dispensaries etc.

Doctor-population Ratio.

46. The doctor-population ratios and the estimated number of doctors during the period 1950 to 1965, are given below:

Year	Estimated number of doctors	Doctor-population ratio
1950	56,000	1 : 6,393
1955	65,000	1 : 5,985
1960	70,000	1 : 6,157
1965	81,000	1 : 5,951

It is seen from the above that there is very little change in the doctor-population ratio in India from 1950 to 1965.

The following table gives the ratio prevalent in some other countries:

Country	Year	Population per doctor
U.S.S.R.	1959	555
U.S.A.	1958	805
Japan	1958	943
U.K.	1958	1065
Mexico	1956	1896
Brazil	1954	2462
Turkey	1956	2139
Egypt	1956	3100

The Bhore Committee (1946) had suggested that India should make endeavours to achieve a doctor-population ratio of 1:2000 by 1971. The Health Survey and Planning Committee had suggested in 1961 that a doctor-population ratio of 1:3500 should be achieved by 1970-71.

Decisions in context of Emergency to increase availability of Doctors.

47. The Committee have been informed that in the context of the Emergency, several decisions were taken by the Technical Manpower Committee to increase the availability of doctors. Some of the important decisions are:

(a) the duration of the medical degree course should be reduced from 5½ years to 4½ years by dispensing with the requirement of compulsory internship;

(b) annual intake in well-establshied medical colleges should be raised from the 1963-64 session upto 200; and

(c) frequent examination should be held with a view to reduce the high percentage of wastage and stagnation among medical students to the minimum.

Asked if the decisions of the Technical Manpower Committee for increasing the availability of doctors in the country have been formally ratified by the Medical Council of India, the Committee have been informed that 'the President of the Medical Council of India was associated with the Technical Manpower Committee Working Group on Medical personnel and all decisions regarding medical personnel were taken in consultation with him'.

Nursing Personnel.

48. Shortage of nursing personnel has been reported from several employment market areas throughout the country. The number of certified nurses at the end of the Third Plan is expected to be only 45,000, giving a nurse: population ratio of 1 : 11,000 in 1965-66. According to the Health Survey and Planning Committee, the ratio of 1 : 5,000 should be reached by 1970-71. This recommendation implies that the total out-turn of nurses during the Fourth Plan should be of the order of 71,000 against the Third Plan out-turn of only 18,000.

Auxiliary Nurse Midwives.

49. The total number of Auxiliary Nurse Midwives and Midwives by the end of the Third Plan period was assumed to be 48,500. Due to shortfall in the training programme, it is now expected that the total number at the end of the Third Plan will only be 35,500 of which 16,500 will be Auxiliary Nurse Midwives. The ratio of Auxiliary Nurse Midwives to population in 1965-66 will, therefore, be 1 : 29,850. The Health Survey and Planning Committee had recommended that by 1975-76, this ratio should be improved to 1 : 5,000. In order to achieve the ratio, it is estimated that the total number of trained nurses in 1975-76 will have to be 1,06,000 against the anticipated number of 16,500 Auxiliary Nurse Midwives at the end of the Third Plan. Thus approximately 90,000 Auxiliary Nurse Midwives will need to be trained during the Fourth and Fifth Plan period.

Para-Medical Personnel.

50. A number of diverse medical functionaries have been broadly grouped together in the general category 'para-medical personnel.' This category includes public health personnel at the junior level *e.g.* auxiliary health workers, sanitary health inspectors, laboratory technicians, opticians, X-ray technicians and radiographers, physiotherapists and pharmacists. The Nursing Committee of the Central Council of Health (Shetty Committee) have recommended a target of 1 : 10,000, with reference to population, for this category of personnel.

Memorandum on Fourth Five Year Plan.

51. As regards the expansion of facilities for medical education and training, the Memorandum on the Fourth Five Year Plan states:

> "The programme for extension of medical facilities and public health for the Fourth Plan has been conceived within the framework of long-term targets and scale of facilities suggested by the Health Survey and Planning Committee, which reported two years ago. Special stress has been laid on enlarging training facilities for different categories of medical personnel so that future expansion of medical and public health facilities can be accelerated without facing the difficulties caused by shortage of personnel. If the programme is successfully implemented, it should be possible to achieve, by the

end of the Fifth Plan, the minimum standards of medical care and public health services recommended by the Health Survey and Planning Committee and as modified by other Committees which have examined the problem since then."

The Committee are glad to note that special stress has been laid in the Memorandum on the Fourth Five Year Plan on enlarging training facilities for different categories of medical personnel so as to accelerate the rate of future expansion of medical and public health facilities.

They observe that the expansion of facilities for medical education of different categories of medical personnel viz., doctors, nurses etc. has lagged behind considerably in comparison with similar expansion in other technical fields such as agriculture and engineering during the first three Plans.

They are of the view that determined efforts should be made in the Fourth Plan period to develop facilities for medical education on adequate scale so as to ensure that the chronic shortage of various categories of medical personnel does not continue indefinitely.

The Committee would like to stress the need for maintaining and improving the standard of medical education for on this depends the health and well-being of the nation.

C. *Agricultural Personnel*

52. The table below gives the number of institutions, intake and out-turn of agricultural and veterinary colleges in the country during the period 1951 to 1962: **Expansion during Five Year Plans.**

	Period			
	1951-52	1955-56	1960-61	1962-63
(1) *Agricultural Graduates*				
(*a*) No. of institutions .	19	30	48	62
(*b*) Intake .	1,060	1,989	5,603	7,483
(*c*) Out-turn .	1,065	928	1,870	2,963

	Period			
	1951-52	1955-56	1960-1961	1962-63
(2) *Veterinary Graduates*				
(*a*) No. of institutions	8	14	17	18
(*b*) Intake	434	1,269	1,300	1,219
(*c*) Out-turn	242	300	820	988

Requirements of Third Five Year Plan.

53. The Agricultural Personnel Committee (1958) had estimated that the requirement of agricultural graduates during the Third Plan period would be about 27,500 resulting in an annual demand for 5,500 agricultural graduates. The Committee had recommended that for securing this output, early steps should be taken to increase the annual intake in agricultural degree courses from about 2,600 in 1957 to 6,000 in 1961. The Committee also felt that this admission capacity of 6,000 would not need upward revision to any significant extent for meeting the Fourth Plan requirements.

A statement showing the State-wise requirements and availability of agricultural graduates, prepared at the time of the formulation of the Third Plan, is given in Appendix V.

The Committee observe that at the end of the Third Five Year Plan, there will be surplus of 2,490 *agricultural graduates in Uttar Pradesh,* 356 *in Bihar,* 141 *in Madhya Pradesh and* 100 *in Assam. On the other hand there will be shortage of* 2,233 *in Madras,* 648 *in Orissa,* 540 *in Andhra Pradesh,* 289 *in West Bengal and* 266 *in Mysore. Furthermore, the chances for recruitment from surplus areas are not very encouraging as the success of extension services depends on intimate knowledge of local agricultural practices, regional language and local dialects.*

Reasons for inbalance in Regions and States.

54. Giving reasons for this unusual phenomenon, the Ministry have stated as follows:

"It might be explained that at the Centre, the policies and programmes regarding expansion of agricultural education and training programmes have to be evolved by the Ministry of Food and

Agriculture, Ministry of Community Development and Cooperation and the Planning Commission, and the Directorate of Manpower is concerned generally with coordination and liaison in regard to this matter. The Government of India does not have regulatory control or direct authority over the expansion of agricultural education. Agriculture is primarily a State subject and establishment of government agricultural colleges, in States is a concern of the State Governments.

The State Governments or the Government of India do not also have any regulatory powers in this regard as the question of recognition and affiliation of all colleges is decided by the Universities concerned."

The Committee are not convinced with the reasons advanced by the Ministry which in fact demonstrably show the helplessness of the Directorate of Manpower in ensuring adherence to planned development.

Measures necessary for Regulating Intake Capacity and Maintaining Standards.

55. The Committee have been further informed that the question of unplanned expansion of agricultural education in Uttar Pradesh was taken up by the Ministry of Food and Agriculture and the Directorate of Manpower in 1960 and 'an Inspection Team has since been appointed with representatives of the State Government, Indian Council of Agricultural Research, University Grants Commission and the Universities concerned to look into the suitability of agricultural colleges from the point of view of adequacy of equipment, staff and other facilities.'

The University Grants Commission have also appointed a Reviewing Committee to look into the entire question of maintaining and upgrading the standard of agricultural education in the country.

The Committee suggest that steps should be taken to correct the regional imbalance by suitably regulating the intake capacity of agricultural colleges in different States.

The Committee are also of the view that the basic issue before the manpower planners is to establish direct relationship between the quantum of requirements of agricultural and allied personnel of different categories e.g. *veterinary, animal husbandry, dairy, horticulture etc. and the*

targets of agricultural production in different States. At the same time, the problems of raising agricultural productivity as well as total production can be solved within a measurable period of time only by building up the necessary infra-structure consisting of extension services, task forces for developing agricultural research and agricultural education. The total demand for agricultural and allied personnel, therefore, must be viewed within the framework of a long-term perspective of development of extension services, agricultural research and agricultural education.

The Committee would, therefore, suggest that a very careful assessment may be made of the requirements of agricultural personnel to strengthen the diverse fields of agriculture so that India can break through the neck of food scarcity. The Committee need hardly stress the need for maintaining strict standard of instruction in agriculture with adequate facilities for practical training so that the men going out of the portals of agricultural institutions fit in usefully in the field and contribute their mite towards increased production.

V. INSTITUTE OF APPLIED MANPOWER RESEARCH, NEW DELHI

A. *Organisation*

Constitution and Rules and Regulations.

56. The Institute of Applied Manpower Research was set up and registered as a society on 30th January, 1962 under the Societies Registration Act, 1860. The organisational charts, Memorandum of Association, and Rules and Regulations are given as Appendices VI and VII.

The Home Minister is the President of the General Council and the four Vice-Presidents are Shri Asoka Mehta, Deputy Chairman, Planning Commission, Shri M. C. Chagla, Minister for Education, Shri D. Sanjivayya, Minister for Labour and Employment and Shri C. Subramaniam, Minister for Food and Agriculture.

The Directorate of Manpower in the Ministry of Home Affairs looks after the affairs of the Institute and performs all administrative duties relating to its activities and finances. The Directorate also serves as 'a link between the Institute and Government'. The Director of Manpower is a member of the Executive Council of the Institute and has been appointed Treasurer of the Institute by the President of the General Council. He is also a member of the Standing Staff Committee and the Research Pragramme Committee.

B. *Functions*

Research Service to Government and other public and private sector establishments.

57. The functions and objectives of the Institute are set out in Article 2 of the Memorandum of Association. These are:—

(i) to advance knowledge about the nature, characteristics, and utilisation of human resources in India;

(ii) to provide a broad perspective of requirements of trained manpower for economic development in different fields with due regard to the probable impact of technological changes on the pattern of employment;

(iii) to develop improved methods and techniques for dealing with:—

(a) training and development of the existing workforce;

(b) educational preparation for employment;

(c) vocational guidance;

(d) identifying and developing highly talented persons;

(e) forecasting demand and supply of manpower and connected matters;

(iv) to provide manpower research services to Government departments, public corporations and private establishments;

(v) to establish and maintain centres for research into manpower problems;

(vi) to undertake, organise, and facilitate study courses, conferences, lectures, seminars and the like to promote the aforesaid objects;

(vii) to undertake and provide for publication of journals and research papers and books and to establish and maintain libraries in the furtherance of the aforesaid objects;

(viii) to subscribe to, or become a member of or to cooperate or amalgamate with any other association or society whose objects are similar;

(ix) to stimulate interest in manpower problems generally, and to cooperate with and assist manpower research by other agencies and institutions or professional associations;

(x) to cooperate with international agencies engaged in manpower research and arrange for interchanges of personnel, materials and data;

(xi) to provide advanced training in professional techniques for manpower planning and administration; and

(xii) to do all such other lawful things as are conducive or incidental to the attainment of the above object.

C. *Finance*

58. The Institute has been set up with the financial and technical collaboration of the Ford Foundation. The Ford Foundation is to bear non-recurring cost involved in the setting up of the Institute other than the cost of the building. It will also bear 50 per cent of the recurring expenditure plus the cost of training abroad of 10 officers during the term of its collaboration; viz. five years, at the rate of two persons per year for six months, each upto an estimated total cost of $50,000. It will also arrange for experts and consultants whose services may be needed by the Institute in the initial stages. **Financial and Technical Collaboration with Ford Foundation.**

The budget of the Institute for 1964-65 provides for a total recurring expenditure of Rs. 6·50 lakhs. Out of this amount, 50 per cent i.e. Rs. 3·25 lakhs are to be borne by the Government of India and have been provided in the Home Ministry's budget. On the non-recurring side, the Government's share of expenditure for 1964-65 is estimated to be Rs. 2·10 lakhs, which is the residuary cost for construction of the building. The table below shows the revised estimates for 1963-64 and the budget estimates for 1964-65:

	Revised Estimates for 1963-64	Budget Estimates for 1964-65	Government's share for 1964-65	Ford Foundation's share for 1964-65
	Rs.	Rs.	Rs.	Rs.
Non-recurring .	5,36,058	3,05,000	2,10,000*	95,000
Recurring .	5,00,000	6,50,000	3,25,000	3,25,000

*For construction of building.

59. The total cost of the building estimated at Rs. 6·60 lakhs would be borne by the Government of India. The building has been constructed on the campus of the Indian Institute of Public Administration, New Delhi. During the course of evidence before the Committee the Director of the Institute of Applied Manpower Research stated that the terms of agreement for construction of the building on the land owned by the Indian Institute of Public Administration were under negotiation and would be finally laid down in a formal document. **Building.**

The Committee are of the view that the Institute should have drawn up the agreement before actually undertaking construction work. Government should also have taken into account this aspect before advancing money to the Institute. They hope that Government will bear in mind this important aspect before making such financial commitments in future.

D. *Manpower Research in Foreign Countries*

Scope of Manpower Research.

60. The Committee have been informed that there is no Institute in any other country dealing exclusively with manpower research. However, most countries,—developed as well as developing, have supported research activities concerning these problems in relation to their own specific needs and conditions. These activities are carried on within governmental organisations as well as outside, chiefly in Universities and professional institutions.

A brief note indicating the position of similar institutions in foreign countries is given at Appendix VIII.

The Committee observe therefrom that the organisation of manpower activities, especially research, do not follow the same pattern in these countries.

If the organisation of manpower research has to be meaningful and effective, it should be evolved systematically in a manner compatible with the general organisation of government, the developmental nature of economy and the innate characteristic of its manpower.

The Committee have been given to understand that the Institute of Applied Manpower Research is unique in as much as no other country has an exclusive Institute for manpower studies.

The Committee hope that the Institute would prove its worth in making substantial contribution towards the planning of manpower resources and providing leadership to other Institutes in the field.

E. *Role of Universities*

Providing Stimulus to Universities.

61. Asked to indicate in brief the attempts made in the past by Government to assess the capacity or efficiency of the Indian Universities to undertake manpower research

now being undertaken by the Institute of Applied Manpower Research, the Committee have been informed that Universities were not approached by Government prior to the establishment of the Institute as 'it was felt that the Institute of Applied Manpower Research would provide the stimulus to Universities in the field and prepare research projects which could be undertaken in collaboration with them in course of time.'

Government have, therefore, made a provision in the scheme for the establishment of the Institute of Applied Manpower Research for financial assistance to Universities and other organisations for research into manpower problems. Since the establishment of the Institute in January, 1962, an amount of Rs. 3795 has been given to the Osmania University towards a collaborative research project on 'strategy of Manpower Planning' which seeks to determine ways of increasing employment opportunities in India in keping with the fast rate of growth of capital accumulation and the Control of inflation. The research project has been completed and the report is under examination.

The Committee are not convinced with the reasons given by Government for assigning to the Institute a hypothetical role of providing 'stimulus to Universities'. They are of the view that the right place for undertaking independent research is more within the walls of Universities than anywhere outside, particularly in an institution where Government interests are dominant.

The Committee consider that as the problems relating to manpower have a bearing on a very wide field of economics, social development, planning, industrialisation, etc., the Universities with their manifold interests in diverse disciplines could play a significant part in evolving methods for projecting manpower requirements.

They suggest that now that the Institute of Manpower has gained some experience in work, it may prepare a list of projects in which research could be undertaken purposefully. This list could be discussed with the Universities and other academic institutions interested in the field of research and suitable research projects initiated on selective basis.

The Committee hope that the use of the Universities would not only make for fresh and stimulating thinking on the subject, but would also provide the much-needed agency for field contact and research.

F. *Two Year Research Programme*

(a) *Broad Objectives*

Objectives of Two Year Research Programme.

62. The Institute has considered it necessary to develop the research programme as a coherent whole on the basis of an organic concept of the plan of approach to applied manpower research. Accordingly, various objectives were scrutinised with a view to identifying the most important ones in relation to which a two year programme of the Institute could be designed. The following three objectives were chosen initially:

(i) To advance knowledge about the nature, characteristics and utilisation of the human resources in India;

(ii) To provide a broad perspective of requirements of trained manpower for economic development in different fields with due regard to the probable impact of technological changes on the pattern of employment;

(iii) To develop improved methods and techniques for dealing with—

(a) training and development of the existing work-force;

(b) educational preparation for employment;

(c) vocational guidance;

(d) identifying and developing highly talented persons;

(e) forecasting demand and supply of manpower and connected matters.

(b) *Nature, Characteristics and Utilisation of Human Resources*

Area Manpower Survey of Meerut District.

63. As regards the first objective, the Institute has conducted three studies relating to the nature, characteristics and utilisation of human resources in India. First, the Fact Book on Manpower compiled and published by the Institute brought together at one place all available data that were important to study the subject.

It has been proposed by the Institute that similar fact books should be complied state-wise by the state planning and manpower authorities. The Committee have been informed that so far no state Government has brought out such a publication.

Secondly, the Institute has formulated a working hypothesis about the manpower situation in the country, the problems posed thereby and the lines on which solution to the problems could be sought.

Thirdly, an Area Manpower Survey of Meerut district has been carried out on a pilot basis in order to study in some detail the nature, characteristics and utilisation of human resources in that district.

Asked to state the criteria adopted for selection of Meerut for Area Manpower Survey, the Committee have been informed that the urban as well as rural parts of that district presented problems of development which were important from 'manpower point of view.' Furthermore, its proximity to Delhi made it easier for the Institute to carry out the field operations under proper supervision and control.

While it may have been desirable from administrative point of view to take up a district close to Delhi for Area Manpower Survey, the Committee feel that Meerut which is situated in the industrial belt of Uttar Pradesh and within the influencing zone of metropolitan Delhi, cannot be construed a truly representative or typical district. They would suggest that after the result of the manpower survey has been critically analysed, guide lines for undertaking such manpower surveys in other districts may be laid down. These guide lines should be further tested in the field by applying them in the survey of a district in each zone. The district in each zone may be selected in consultation with the respective Zonal Councils and should be as representative as possible of the conditions prevailing in that Zone.

Main Findings of Pilot Survey.

64. The Committee have been informed that the research programme of the Institute is only in preliminary stages and the material that has so far been gathered is somewhat inadequate for reaching firm conclusions on the subject. However a note prepared by the Institute regarding the nature, characteristics and utilisation of human resources

in India based on the findings of the Pilot Area Manpower Survey of the Meerut district is given at Appendix IX. The nature, characteristics and utilisation of human resources in our country as described therein differ from those of the advanced countries in significant respects. The educational standard of the population is much higher in advanced countries than in India. This has been achieved by them by ensuring schooling facilities for practically all the school age population. In India it has not been possible to provide schooling facilities to more than 40 per cent of our population in the school-age group. About 70 per cent of our population in the age group 6 and above were found to be illiterate whereas advanced countries have achieved a state of almost universal literacy in the same age group.

The non-agricultural sector in India's economy is not only small but also unorganised; about three-fourths of it is made up of unorganised and household establishments. In advanced countries on the other hand, the non-agricultural sector is comparatively very large and the bulk of it provides organised employment to the workers.

While in India unskilled workers constitute the bulk of our workers, in advanced countries skilled and semi-skilled workers account for the large majority of workers. It is noticed that in many advanced countries, about 70 per cent of the labour force consists of trained and skilled categories. Employment Exchange statistics indicate that over 70 per cent of job-seekers registered at employment exchanges in India consist of unskilled categories.

Plan of Publishing Survey Reoprts.

65. The Committee have been informed that according to the present plan, the Institute proposes to bring out a series of four Reports and six working papers on the Pilot Survey in Meerut district. The four Reports would be: Employment aspect, Demographic aspect, Educational and Training aspect, and a comprehensive report covering these and other aspects. The draft Reports on the Employment and Demographic aspects have been circulated on a restricted basis to the various Departments and Institutions concerned with the Area Manpower Survey and would be finalised in the light of comments received. The other two Reports and Papers would be similarly circulated on a restricted basis in the near future. According to the Institute, the preliminary results of the Area Manpower Survey of

Meerut district have broadly confirmed and supported the working hypothesis on which the research programme was formulated.

The Committee note that the Area Manpower Survey of Meerut District, undertaken as a joint cooperative enterprice with the Uttar Pradesh Government, has generated considerable enthusiasm at the district level, resulting in participation by two professors of the Meerut College and other college students.

The Committee hope that it will be possible for the Institute to sort out topics emerging from the present Area Manpower Survey which will constitute the hard core of the second and subsequent phases of Area Manpower Surveys in other districts.

(c) *Perspective Requirements of Trained Manpower*

Planning Commission's Perspective Plan as the Basic Document.

66. As regards the second objective of providing a broad perspective of requirements of trained manpower for economic developments in different fields with due regard to the probable impact of technological changes on the pattern of employment, the Committee were informed by the Director of the Institute during his evidence that the paper published by the Planning Commission setting out perspective growth upto the end of the Fifth Plan would be the basic document to proceed with.

The Committee hope that close liaison will be established between the Institute and the Perspective Planning Division of the Planning Commission through the Directorate of Manpower so that the Institute is kept concurrently posted with the latest thinking in perspective planning.

(d) *Improved Methods and Techniques of Development and Training*

Scope of Studies and its impact on Education and Training.

67. As regards the third objective of development of improved methods and techniques for dealing with training and development of the existing work-force; educational preparation for employment; vocational guidance; identifying and developing highly talented persons; and forecasting demand and supply of manpower and connected

matters, the Committee have been informed that the studies undertaken by the Institute are still in preliminary stages and, therefore, it is too early to say definitely that the Institude has developed improved methods and techniques of research and planning. However studies conducted so far relate mainly to two items, *viz.* (i) Educational Preparation for Manpower and (ii) Forecasting demand and supply of manpower and connected matters.

As regards Educational Preparation for Employment, a specific scheme for coordinating Education and Training in respect of Engineering Manpower required for the public sector steel industry was worked out in course of the Engineering Manpower Survey. The scheme involves an integration of the degree courses in engineering and the two-year inplant training currently required before graduate engineers are taken in positions of responsibility. An important feature of the scheme is that the academic content of the five year model syllabi of the All India Council for Technical Education is kept fully intact and the inplant training requirements of the steel industry is integrated with it by utilising the vacations. In the process the aggregate time required for the academic course and inplant training is reduced by one year. Similar coordination of engineering education with employment of engineering manpower on a wider scale is being currently considered in the Institute.

As regards forecasting of demand for Manpower, a Working Paper detailing the various methods as applicable particularly to Engineering Manpower was prepared. A part of this paper also contains a provisional forecast of demand for engineers during the Fourth and Fifth Plans. The work in both these directions is still in initial stages. Asked as to what extent had the improved methods and techniques devised by the Institute been put into practice, the Committee have been informed that the scheme of collaboration between the Public Sector Steel industry and the Engineering Degree Institutions has been accepted and implemented with effect from the summer of 1964 on a limited scale.

The Committee are glad to note the purposeful studies initiated by the Institute. They would suggest that the scope of the studies should be extended both in range and in depth so as to bring about an integrated system of education and training suited to industrial development.

G. *Manpower Statistics*

(a) *Nature of Statistics Required*

Determining Nature of Statistics and Manpower Information.

68. Manpower statistics and information are necessary for sound manpower planning and operating decisions just as facts and information are essential in making decisions concerning other aspects of economic planning (material, equipment, money and other resources). Statistics and information should be designed to assist in dealing with particular and general manpower problems. The nature of manpower problems being dealt with and those anticipated determines the kinds of statistics and information to be developed.

According to Mr. Leo R. Werts,* formerly Manpower Consultant in the Ministry of Home Affairs, 'every country which is attempting to deal intelligently with its manpower problems has the problem of determining:

(1) What kinds of data and information will be most useful in making manpower decisions;

(2) How to make the best use of existing data and information;

(3) How best to provide the needed additional data and information;

(4) How to develop adequate methods and techniques of gathering, analysing and presenting data and conclusions.

(b) *Nature of Available Statistics*

Censes of India Tabulations.

69. The Committee have been informed that the most important among all manpower information agencies is the Census of India, which normally supplies data once every ten years. A very large volume of basic information about the "nature, characteristics and utilisation of the human resources in India" has been collected in the form of house lists, census slips and household schedules prepared for every village and every town in India during the 1961 census. The data are being sorted and compiled according to a Tabulation Plan framed by the Registrar General. The

*"A Manpower Programme for Economic Development and Observations and Suggestions concerning India's Manpower Programme" p. 112

material as thus compiled by special tabulation constitutes an important source material for study by the Institute of Applied Manpower Research.

Employment Statistics.

70. The Directorate General of Employment and Training stands, in respect of the second type of manpower information *viz.* Employment Information on the same footing as the Census of India organisation stands in relation to the first type. A few years ago, the network of employment exchanges formerly operated directly by the Directorate General was entrusted to State Governments and came to be operated by State Directorates of Employment. The Directorate General continued to maintain and develop effective working relations with the Directorates of Employment in States. In recent years, the net work has been expanded, its staff strengthened and contacts established and developed with employment establishments. A system of quarterly and biennial returns has been started and is in the process of growth. With proper scrutiny and evaluation at the source, as well as planned compilation and organised study at higher levels, useful data on the industrial and occupational distribution of manpower as well as employment market studies of a highly informative character should become available on a continuing basis. A machinery has thus come into existence which provides an orderly line of communication between the Union and State headquarters on the one hand and with all organised establishments employing personnel on the other.

Educational and training Statistics.

71. The third type of manpower information, *viz.* Educational and Training Information is of extreme importance because it relates to the process by which manpower is developed before it is utilised. Students constitute a significant proportion of the population and provide the source of regular annual supply to the employment market. Teachers constitute a highly strategic manpower group. There is a highly reliable system of annual returns relating to all these institutions which flow into the Directorates of Education (or Public Institutions) in States and reach the Ministry of Education. In recent years, these information links are being strengthened through the surveys undertaken by a Perspective Planning Unit of the Ministry.

During the last decade, engineering education has been developed on a planned basis, largely through sustained activities under the aegis of the All India Council of Technical Education and the Regional Councils of Technical Education. The Ministry of Education and the All India Counil of Technical Education working closely together have close working relations with Directorates of Technical Education in States and through them with the Engineering Colleges and Polytechnics throughout the country.

Again, in recent years, large number of lower-level training institutions are coming up under the organisational set up headed by the Directorate of Employment and Training.

(c) *Processing Available Statistics to Suit Requirements*

Need for closed working Relationship Among Statistical Organisations.

72. In spite of the existence of these agencies from which primary manpower statistics are being drawn, the Committee have been informed that "collection, analysis and interpretation of manpower information and statistics would remain a continuing activity of the Institute for all time to come". The Director of the Institute added during the course of his evidence before the Committee that "practically the whole staff is engaged both in collection and study."

Asked to indicate the lines on which the basic manpower statistics compiled by different government organisations, particularly, the census organisation call for improvement so that these can be effectively and without unnecessary processing be utilised for manpower studies, the Government have furnished a note which is given at Appendix X.

The Committee are of the view that there is need for establishing closest possible working relations between the Institute on the one hand and the Census of India Organisation, Director General of Employment and Training, Ministry of Education and State Directorates of Technical Education on the other for the purpose of joint planning and mutual division of labour so as to avoid duplication of efforts in the compilation, analysis and interpretation of manpower information and statistics.

The Committee would in particular stress that the different sets of data compiled by Government agencies should be carefully compared and integrated. For example, information about students provided by the census should be compared and integrated with the information provided by the Ministry of Education. Similarly, information about non-agricultural workers provided by the census should be compared with the information about organised non-agricultural employment made available by the Directorate General of Employment and Training. The difference between the two would yield useful data about the unorganised sector. Within the organised sector, information provided by the Directorate General of Employment and Training should be compared and integrated with the information made available by the Inspector of Factories and the Department of Industries. The Committee hope that the data and statistics contained in the Reports of the Agricultural Labour Enquiry Committees, undertaken in 1950-51 and 1956-57 and other Reports of similar nature would be suitably compared in order to get verified and accurate data. This would ensure availability of verified and accurate data which could be put to good use for the purposes of manpower planning.

NEW DELHI;
Dated the 6th March, 1965.
Phalguna 15, 1886 (Saka).

ARUN CHANDRA GUHA,
Chairman,
Estimates Committee.

APPENDIX I

(*Vide* Para 20)

List of important decisions taken by the Technical Manpower Committee in the context of the Emergency

Recommendation (1)	Action taken (2)
I. *Measures for facilitating Recuritment to Defence Services:—*	
(*a*) Liberal release of civilian technical personnel for military duty and protection of their service interests.	Ministry of Home Affairs issued necessary instructions on 4th and 18th-December, 1962. Quotas were fixed for each State for release of Engineers and Doctors during 1963-64 and partial releases were effected.
(*b*) Reservation of 50% of permanent vacancies in civil services for technical personnel joining the Defence Services.	The Ministry of Home Affairs issued orders on 17th May, 1963 that 50% of the permanent vacancies in Class I & Class II Engineering and Medical Services and posts under Government of India, which are to be filled by direct recruitment shall be reserved for graduate engineers and doctors who are commissioned in the Armed Forces on a temporary basis during the Emergency and are later released.
(*c*) Ante-dated seniority to engineers joining the defence services on the basis of length of civilian service and qualifications.	Ministry of Defence issued necessary orders in November, 1962 and July, 1963. Under this Scheme, qualified engineers employed under the Central or State Governments or in public sector undertakings, are eligible for the benefit of ante-dated Commission up to a maximum of 4 years—2 years for length of experience in civil employment. The ante-date granted under these orders counts for purposes of pay as well as promotion.

(1)	(2)
(*d*) University Entry Scheme for grant of Short Service Regular Commission for final year engineering and medical students.	Orders were issued by the Ministry of Defence on 27th March, 1963 sanctioning a University Entry Scheme under which students studying in final or pre-final year of the degree course are eligible for the grant of provisional S.S.R.C. in Armed Forces. On 1st November, 1963, the Ministry of Defence issued modified orders under which students are eligible for grant of 'SSRC on probation' instead of 'provisional SSRC'.
(*a*) Introduction of a Compulsory Liability Scheme for new entrants to Centre/State Engineering/Medical Services to serve in Defence Services.	The Ministry of Home Affairs issued orders on 7th May, 1964 for introduction of a Rule making future graduate entrants to engineering and medical services under the Government liable to service in the Defence Services or posts connected with the Defence of India for a minimum period of 4 years during the first ten years of service.
II. *Training Programmes*:—	
A. *Engineering Courses*:—	
(1) Degree—(*a*) Introduction of accelerated courses	This was placed before the Coordinating Committee of all India Council of Technical Education and it was agreed that the training of students in the pre-final and final year of the five year engineering degree course should be accelerated by reducing holidays and vacations. Ministry of Education accepted these recommendations and issued instructions to all concerned on 18th February, 1963.
(*b*) Introduction of 3-year Degree course.	The Coordinating Committee of AICTE also accepted the recommendation regarding institution of a Degree course for Science graduates to be covered in three academic sessions. The Ministry of Education issued instructions to all concerned.

(1)		(2)
(2) Diploma—	(*a*) Introduction of accelerated courses.	Ministry of Education accepted the recommendation and issued instructions to all concerned.
	(*b*) Introduction of 2-year course.	The proposal for institution of 2-years courses was approved in principle on 13th December, 1962. The Ministry of Education after initiating measures for the completion of preliminary work involved in connection with the introduction of this course, issued necessary instructions to all concerned on 18th February 1963.
	(*c*) Increase in intake	It was decided to increase the intake by about 12,000 seats.
(3) Craftsmen—	Introduction of special condensed courses for training of craftsmen and accelerated programme for training of Wireless Operators, Radio-Mechanics and Vehicle Drivers etc.	The DGE&T issued instructions to all States on 17th November, 1962 for introducing accelerated training programmes or turning out 60,000 craftsmen per year in selected engineering trades. The following condensed courses for training were also instituted: (*i*) A scheme for introduction of an accelerated course of 6 months' duration for training of engineering crafts men was sanctioned by the Ministry of Labour and Employment and the first course started in all States from the beginning of February 1963. (*ii*) A scheme for accelerated programmes for training of Wireless Operators in 3 months courses and for Radio Mechanics in 6 months course, was sanctioned by Ministry of Labour and Employment and the first course started in February 1963 in all States. (*iii*) A scheme for introducion of a short-term training course for Vehicle Drivers (2 months) was sanctioned and the Ministry of Labour and Employment requested all the States to organise three courses from the beginning of March, 1963.

(1)		(2)
	(c) Increase in intake in engineering institutions.	It was decided to increase the admissions in Engineering Degree institutions by about 4000 seats. [These courses have since been discontinued.]
B —*Medical*—		
(1) Degree—(Doctors)	(a) Reduction of duration of course from 5½ years to 4½ years by dispensing with compulsory period of internship and provisional registration after passing final year examination.	The Ministry of Health and the Medica Council of India accepted the recommendation and issued instructions to all concerned on 20th December 1962.
	(b) Raising of annual intake in medical institutions.	It was decided to increase the total intake by 3000 seats by the end of the Third plan period and to increase the intake during 1963-64 by 1900 seats.
	(c) Holding of frequent examinations (three) every year.	The Ministry of Health and the Medical Council of India accepted the recommendations and issued instructions to all concerned on 20th December, 1962.
(2) Nurses—	Expansion of training facilities for auxiliary nurses.	The Ministry of Health made arrangements for training of 10,000 auxiliary Nurses during 1963-64. (This Scheme has since been merged with the regular training programme.)

APPENDIX II

(*Vide* Para 21)

Ministry of Home Affairs Resolution No. F. 23/19/62. M.P. dated 6th January 1965 *setting up the Steering Group on Manpower*

RESOLUTION

There has been considerable increase in the range and volume of manpower work as also in the number of Central agencies which are concerned with different aspects of the problem of development and utilisation of managerial, scientific and technical manpower. It is necessary, therefore, to strengthen the arrangements for co-ordination of manpower work. It has been decided accordingly to set up an inter-departmental Committee to be called 'the Steering Group on Manpower' for co-ordination of manpower work. The Group will concern itself, in particular, with policies and programmes relating to development and utilisation of Scientific, Technical and Managerial manpower including technical personnel requirements of the Defence sector and of Central undertakings.

2. The composition of the Steering Group be as follows:—

(1) Secretary/Additional Secretary dealing with manpower in the Ministry of Home Affairs—*Chairman;*

(2) Secretary, Planning Commission, *or* his representative;

(3) Chief, Perspective Planning Division, Planning Commission;

(4) Chief, Labour and Employment Division, Planning Commission;

(5) Director, Institute of Applied Manpower Research;

(6) Director General, Council of Scientific and Industrial Research, *or* his representative;

(7) Director General, Employment and Training, and *ex-officio* Joint Secretary, Ministry of Labour and Employment;

(8) Joint Educational Adviser (Technical), and *ex-officio* Joint Secretary, Ministry of Education;

(9) Secretary, University Grants Commission;

(10) Joint Secretary, Department of Coordination, Ministry of Finance;

(11) Joint Secretary, Ministry of Defence;

(12) Joint Secretary, Department of Defence Production, Ministry of Defence;

(13) Joint Secretary, Department of Heavy Engineering, Ministry of Industry and Supply;

(14) Officer on Special Duty, Department of Industry, Ministry of Industry & Supply;

(15) Officer on Special Duty, Ministry of Irrigation and Power;

(16) Deputy Secretary, Ministry of Petroleum and Chemicals; and

(17) Director, Directorate of Manpower, and Joint Secretary, Ministry of Home Affairs—*Convener.*

3. Representatives of other Ministries and Organisation may be invited to attend meetings of the Steering Group as and when necessary.

ORDER

Ordered that a copy of this Resolution be communicated to: (1) all the Ministries and Departments of the Government of India; (2) the Planning Commission; (3) the Council of Scientific and Industrial Research; (4) Union Public Service Commission; (5) University Grants Commission; (6) Institute of Applied Manpower Research; (7) all the State Governments; and (8) all the Union Territories' Administrations.

Ordered further that a copy of this Resolution to be published in the Gazette of India.

By order,

R. K. SRIVASTAVA,

Deputy Secretary to the Government of India.

APPENDIX III

(*Vide* Para 24)

Ministry of Home Affairs Office Memorandum No. F. 1/8/56-Serv. Reorg., dated 19th November, 1956 setting up the Directorate of Manpower

OFFICE MEMORANDUM

The Cabinet decided on the 22nd September 1956 that there should be proper planning and organisation of manpower, both to meet the requirements of the immediate future, and on a long-term basis; and a Committee of the Cabinet was set up to consider the problem in an integrated manner. The Cabinet also decided that a Directorate of Manpower should be constituted, and located in the Ministry of Home Affairs.

2. The Directorate will provide the secretariat for the Cabinet Committee and will be concerned with the implementation, by the Ministries and other agencies concerned, of the decisions of the Committee. The Directorate will not duplicate or take over functions at present being performed elsewhere, but will maintain liaison with the various Ministries and other agencies at the Centre concerned with Manpower problems, and with the State Governments. The Directorate will, in particular, keep close touch with the Divisions of the Planning Commission dealing with Manpower and with the Scientific Personnel Committee of the Council of Scientific and Industrial Research.

3. Each Ministry is requested to designate a senior officer to deal with its manpower problems, and to communicate the name of the officer to the Ministry of Home Affairs at a very early date. The Directorate will ordinarily deal with the Ministries through these officers. Shri L. P. Singh ICS., has been placed in charge of the Directorate.

4. A further communication explaining in greater detail the functions of the Directorate, and its relationship to the Ministries and other organisations at the Centre, will follow.

Sd./- A. V. PAI,
Secretary.

APPENDIX V

(*Vide* Para 53)

Statement showing the estimated requirements and outturn of Agricultural Graduates during the Third Plan period (as furnished by the States, 1960).

State/Union Territory	Requirements[1]	Output[2] on the basis of the existing admissions	(+)Surplus (—)Deficit at the end of 1965-66	
India	18,674	17,573	(—)	1101
Central Organisations	350	..	(—)	350
Northern Zone	**2195**	**2307**	(+)	112
Jammu & Kashmir	263	389	(+)	126
Punjab	994	1000		*
Rajasthan	787	868	(+)	81
Delhi	43	..	(—)	43
Himachal Pradesh	108	50	(—)	58
Central Zone	**3774**	**6405**	(+)	2631
Madhya Pradesh	799	940	(+)	141
Uttar Pradesh	2975	5465	(+)	2490
Eastern Zone	**3045**	**2506**	(—)	539
Assam	150	250	(+)	100
Bihar	1156	1512	(+)	356
Orissa	1174	526	(—)	648
West Bengal	469	180	(—)	289
Manipur	30	38		*
Tripura	42	..	(—)	42
NEFA	24	..	(—)	24
Western Zone	**3108**	**3165**	(+)	57
Gujarat	1404	1450	(+)	46
Maharashtra	1704	1715	(+)	11

IV. *Institute of Applied Manpower Research.*

1. General Council.

2. Executive Council.

3. Standing Staff Committee.

4. Standing Research Programme Committee.

V. *Scientists Pool.*

1. Standing Committee of the Pool of Scientists and Technologists.

2. Advisory Committee of the Pool of Scientists and Technologists.

3. Special Recruitment Board of the Pool of Scientists and Technologists.

VI. *Others.*

1. Projects Coordination Committee of the Ministry of Industry.

2. Committee for Assessing Training Requirements for Superior Managerial Personnel for Public Sector Undertakings.

3. Committee on Managerial Personnel.

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APPENDIX VII

(*Vide* Para 56)

MEMORANDUM OF ASSOCIATION AND RULES AND REGULATIONS OF THE INSTITUTE OF APPLIED MANPOWER RESEARCH, NEW DELHI

1. The name of the Society is "the Institute of Applied Manpower Research". Its registered office shall be situated in the Union territory of Delhi.

2. The objects for which the Institute of Applied Manpower Research is established, are:—

(*i*) to advance knowledge about the nature, characteristics, and utilisation of human resources in India;

(*ii*) to provide a broad perspective of requirements of trained manpower for economic development in different fields with due regard to the probable impact of technological changes on the pattern of employment;

(*iii*) to develop improved methods and techniques for dealing with

(*a*) training and development of the existing work-force;

(*b*) educational preparation for employment;

(*c*) vocational guidance;

(*d*) identifying and developing highly talented persons;

(*e*) forecasting demand and supply of manpower and connected matters;

(*iv*) to provide manpower research services to Government departments, public corporations and private establishments;

(*v*) to establish and maintain centres for research into manpower problems;

(*vi*) to undertake, organise, and facilitate study courses, conferences, lectures, seminars and the like to promote the aforesaid objects;

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(*vii*) to undertake and provide for publications of journals and research papers and books and to establish and maintain libraries in the furtherance of the aforesaid objects;

(*viii*) to subscribe to, or become a member of or to co-operate or amalgamate with any other association or society whose objects are similar;

(*ix*) to stimulate interest in manpower problems generally, and to cooperate with and assist manpower research by other agencies and institutions or professional associations;

(*x*) to cooperate with international agencies engaged in manpower research and arrange for inter-change of personnel, materials and data;

(*xi*) to provide advanced training in professional techniques for manpower planning and administration; and

(*xii*) to do all such other lawful things as are conducive or incidental to the attainment of the above objects, *inter alia,*

(*a*) to invest and deal with funds and moneys of the Society;

(*b*) to issue appeals and applications for money and funds in furtherance of the said objects and to raise or collect funds by gifts, donations, subscriptions or otherwise of cash and securities, and any property either moveable, or immoveable and to grant such rights and privileges to the donors, subscribers, and other benefactors, as the Society shall consider proper;

(*c*) to acquire, purchase or otherwise own or take on lease or hire in the Union territory of Delhi or outside, temporarily or permanently, any moveable or immoveable property necessary or convenient for the furtherance of the objects of the Society;

(*d*) to borrow and raise moneys with or without security or on the security of a mortgage, charge or hypothecation or pledge of all or any of the moveable or immoveable properties belonging to the Society or in any other manner whatsoever, provided that prior

approval in writing of the Central Government is obtained in that behalf;

(*e*) to sell, assign, mortgage, lease, exchange and otherwise transfer or dispose of all or any property, moveable or immoveable, of the Society for the furtherance of the objects of the Society provided prior approval of the Central Government is obtained for the transfer of immoveable property;

(*f*) to enter into any agreement with any Government or authority, municipal, local or otherwise to obtain from such Government or authority any rights, privileges, concessions fiduciary or otherwise that the Society may deem desirable to obtain and carry out, exercise and comply with such arrangements, rights, privileges and concessions;

(*g*) to draw, make, accept, endorse, discount, execute, sign, issue and otherwise deal with cheques, hundies, drafts, certificates, receipts, Government securities, promissory notes, bills of exchange or other instruments, and securities whether negotiable or transferable or not;

(*h*) to build, construct, maintain, repair, adopt, alter, improve or develop or furnish any buildings or works necessary or convenient for the purposes of the Society;

(*i*) to undertake and accept the management of any endowment or trust fund or donation to further the objects of the Society;

(*j*) to appoint, or employ, temporarily or permanently, any person, or persons that may be required for purposes of the Society and to pay them or other persons in return for services rendered to the Society, salaries, wages, gratuities, provident fund and pensions;

(*k*) to establish a provident fund for the benefit of the employees of the Society;

(*l*) to institute, offer and grant prizes, awards, scholarships and stipends in furtherance of the objects of the Society;

(*m*) to make and enforce rules and Bye-laws and from time to time, to repeal, amend and alter the same; and

(n) to pay all costs, charges and expenses incurred in the promotion, formation, establishment and registration of the Society.

3. The Executive Council of the Society will be the body constituted to be the Executive Council under the Rules of the said Society and till the said body is constituted as required by the Rules, the following members shall constitute the Executive Council:—

Sl. No.	Name	Address	Occupation
1	Shri Vishnu Sahay	Secretary, Planning Commission, New Delhi.	Government Service
2	Shri L. P. Singh .	Additional Secretary, Ministry of Home Affairs, New Delhi.	Government Service
3	Shri Charat Ram .	15/48, Diplomatic Enclave, Kitchner Road, New Delhi.	Industry and Business
4	Shri R. Prasad .	Director, Directorate of Manpower and Joint Secretary, Ministry of Home Affairs, New Delhi.	Government Service
5	Shri G. K. Chandiramani	Joint Educational Adviser (Technical) and Joint Secretary, Ministry of Scientific Research & Cultural Affairs, New Delhi.	Government Service
6	Shri D. Sandilya .	Joint Secretary, Ministry of Commerce & Industry, New Delhi.	Government Service
7	Shri R. P. Padhi .	Joint Secretary (Personnel), Ministry of Finance (Department of Expenditure), New Delhi.	Government Service
8	Shri S. Abdul Qadir	Director-General, Employment & Training and Joint Secretary, Ministry of Labour & Employment, New Delhi.	Government Service

4. The income and property of the Society, however derived, shall be applied towards the promotion of the objects thereof as set forth in this Memorandum of Association subject nevertheless in respect of the expenditure of grants made by the Government of India or any State Government to such limitations as the Government of India or the State Government, as the case may be, may from time to time impose. No portion of the income and property of the Society shall be paid or transferred, directly or indirectly by

way of dividends, bonus or otherwise howsoever by way of profit, to the persons who at any time are or have been members of the Society or to any of them or to any persons claiming through them or any of them, provided that nothing herein contained shall prevent the payment in good faith of remuneration to any member thereof or other person in return for any service rendered to the Society or for travelling allowance, halting allowance or other similar charges.

5. If, on the winding up or dissolution of the Society, there shall remain, after the satisfaction of all its debts and liabilities any property whatsoever the same shall not be paid to, or distributed among the members of the Society or any of them but shall be dealt with in the manner provided by Sections 13 and 14 of Act XXI of 1860 as applicable in the Union territory of Delhi.

We, the several persons whose names and addresses are subscribed hereto, having associated ourselves for the purposes described in this Memorandum of Association, do hereby subscribe our names to this Memorandum of Association and set our several and respective hands hereunto and form ourselves into a Society under Act XXI of 1860 as applicable in the Union territory of Delhi this twenty-seventh day of January, 1962 at New Delhi.

Sl. No.	Name	Address	Signature
1	Vishnu Sahay	Secretary, Planning Commission, New Delhi.	Sd/- Vishnu Sahay
2	R. P. Padhi	Joint Secretary, Ministry of Finance (Department of Expenditure), New Delhi.	R. P. Padhi
3	G. K. Chandiramani	Joint Educational Adviser and Joint Secretary, Ministry of Scientific Research and Cultural Affairs, New Delhi.	G. K. Chandiramani
4	B. Mazumdar	Additional Member (Staff), Railway Board, Ministry of Railways, New Delhi.	B. Mazumdar
5	S. Abdul Qadir	Director-General, Employment and Training and Joint Secretary, Ministry of Labour and Employment, New Delhi.	S. Abdul Qadir
6	D. Sandilya	Joint Secretary, Ministry of Commerce and Industry, New Delhi.	D. Sandilya

Sl. No.	Name	Address	Signature
7	Shanti Prakash	Honorary Secretary, All-India Management Association, Press Bhavan, 8E, Rani Jhansi Road, New Delhi.	Sd/- Shanti Prakash
8	Charat Ram	15, Kitchner Road, New Delhi.	Charat Ram
9	P. Chentsal Rao	Secretary, All India Organisation of Industrial Employers, "Federation House", Bazar Road, New Delhi.	P. Chentsal Rao
10	L. P. Singh	Additional Secretary, Ministry of Home Affairs, New Delhi.	L. P. Singh
11	Pitambar Pant	Chief, Perspective Planning Division, Planning Commission, New Delhi.	Pitambar Pant
12	R. Prasad	Director, Directorate of Manpower and Joint Secretary, Ministry of Home Affairs, New Delhi.	R. Prasad

NEW DELHI,
Dated the 27th January, 1962.
Witness :

Sd/- M. S. RAMANATHAN,
Section Officer, Directorate of Manpower, Ministry of Home Affairs, New Delhi.

[Rules and Regulations of the Institute of Applied Man-power Research as registered with the Registrar of Societies, Delhi, under Certificate No. S. 1933 of 1961-62, dated the 30th January, 1962.]

RULES AND REGULATIONS

OF

THE INSTITUTE OF APPLIED MANPOWER RESEARCH

Title

1. These rules may be called the Rules of the Institute of Applied Manpower Research.

Definitions

2. In these Rules, unless there is anything repugnant in the subject or context:—

(*a*) "the Institute" means the Institute of Applied Manpower Research;

(*b*) "President" means the President of the Institute;

(*c*) "Vice-President" means the Vice-President of the Institute;

(*d*) "the General Council" means the General Council of the Institute;

(*e*) "the Executive Council" means the Executive Council of the Institute;

(*f*) "Chairman" means the Chairman of the Executive Council; and

(*g*) "Director" means the Director of the Institute.

General Council

"The Institute shall consist of the following members (hereinafter referred to as the General Council), namely—

(a) The President	To be appointed by the Government of India.
(b) Not more than five Vice-Presidents	
(c) Chairman of the Executive Council	—do.—
(d) Director	
(e) Treasurer of the Institute;	

(f) Two representatives each of the

1. Planning Commission
2. Ministry of Home Affairs
3. Ministry of Education (Department of Education and Department of Science)
4. Ministry of Steel, Mines and Heavy Engineering (Department of Iron and Steel and Department of Heavy Engineering);

(g) One representative each of the—

1. Ministry of Labour and Employment;
2. Ministry of Industry;
3. Ministry of Food and Agriculture;
4. Ministry of Health;
5. Ministry of Finance (Expenditure);
6. Ministry of Railways;
7. Ministry of Defence;

8. Ministry of Transport;
9. Ministry of Irrigation and Power;
10. Ministry of Petroleum and Chemicals;
11. Department of Atomic Energy;
12. Central Statistical Organisation;
13. Council of Scientific and Industrial Research;
14. University Grants Commission;
15. The Union Public Service Commission;
16. All India Council of Technical Education;
17. All India Council of Agricultural Education;
18. Medical Council of India;
19. National Council for Training in Vocational Trades;
20. The Institution of Engineers (India);
21. Institute of Chemical Engineers;
22. Institution of Telecommunication Engineers;
23. Indian Statistical Institute;
24. National Productivity Council;
25. Central Institute for Labour Research;
26. Indian Institute of Public Administration;
27. National Council of Applied Economic Research;
28. Institution of Chartered Accountants of India;

(h) The Secretary of each Zonal Council;

(i) One representative of each State Government;

(j) One representative each of—

1. the Federation of Indian Chambers of Commerce and Industry;
2. Employers' Federation of India;
3. the All India Manufacturers' Organisation;
4. the All India Organisation of Industrial Employers;

(k) four representatives of labour nominated by the Government;

(l) one representative of the All India Management Association.

The General Council may coopt, from time to time for such period as it may think fit, representatives of other organisations or institutions which may be concerned with the work or programme of the Institute, and individuals with special knowledge of or interest in the work or programme of the Institute.

Representatives of Labour under clause (k) above shall be nominated for a year at a time but the Government may extend the period in any case. The tenure of other members shall be at the discretion of the respective nominating authority. The nominating authority may at any time cancel the nomination of any person appointed by it at any time even though he may have been appointed for a fixed period and appoint another person in his place."

Meeting of the General Council

4. The General Council shall meet at least once a year to consider the annual report and accounts of the Institute, to appoint auditors for the Society for each financial year and to consider and approve the programme of work generally for the ensuing year. The President may convene a special meeting of the General Council whenever he thinks it necessary to do so.

Executive Council

5. The affairs of the Institute shall be managed by an Executive Council consisting of:—

(a) Chairman;

(b) Director (*ex officio*);

(c) one representative each of—

Planning Commission;

Ministry of Home Affairs (Directorate of Manpower);

Ministry of Education (Department of Science);

Ministry of Industry;

Ministry of Finance (Expenditure); and

Ministry of Labour & Employment (Directorate General of Employment and Training);

(d) three members from amongst the representatives of—

Employers' Federation of India;

All India Manufacturers' Organisation;

All India Organisation of Industrial Employers;

All India Management Association,

National Productivity Council; and

All India Organisations of Labour,

(e) not more than four members of the General Council.

The Chairman and members (excepting the *ex officio* members) shall be nominated by the President.

Meetings of the Executive Council

6. The Executive Council of the Institute shall meet as often as necessary and at least twice each year. The meetings of the Executive Council may be convened by the Chairman of the Council or by any other Member of the Council who may be authorised in this behalf by the Chairman of the Council.

7. (*a*) Ten members of the General Council shall constitute a quorum at any meeting of the Council and four members of the Executive Council shall constitute a quorum at any meeting of the Council. If at any meeting there is no quorum, the meeting shall stand adjourned to a date to be fixed by the President or the Chairman as the case may be.

(*b*) If at any adjourned meeting there is no quorum the members present shall form a quorum.

(*c*) Non-receipt of any notice of any meeting of the General Council or the Executive Council or the omission to send such notice shall not invalidate the proceedings of any meeting.

(*d*) The General Council or the Executive Council shall function notwithstanding any vacancy therein and notwithstanding any defect in the appointment, nomination or co-option of any member and no act or proceeding of the General Council or the Executive Council shall be invalidated or nullified merely by reason only of the existence of any vacancy therein or of any defect in the appointment, nomination or co-option of any member.

(*e*) In case of difference of opinion among the members of the General Council or of the Executive Council at any meeting, the opinion of the majority shall pervail. Each member of the General Council including the President, or of the Executive Council including the Chairman, shall have one vote and if there be equality of votes on any question, the President or the Chairman as the case may be shall in addition have and exercise a casting or second vote.

(*f*) Subject as hereinafter provided any business which it may be necessary for the General Council or the Executive Council to perform may be carried out by circulation amongst all its members and any resolution so circulated and approved by a majority of members of the General Council or the Executive Council as the case may be shall be effectual and binding as if such resolution had been passed by a meeting of the General Council or the Executive Council as the case may be.

(*g*) Subject to the provisions of the Societies Registration Act, 1860 and subject to the prior approval of the Government, the General

Council may alter, extend or abridge any purpose or purposes for which the Institute is established.

(*h*) Subject to the approval of the Government, the General Council may alter the rules of the Institute at any time by a resolution passed by a majority of three-fifths of members present and voting at any meeting of the General Council which shall have been convened for the purpose after giving due notice of such resolution to the members of the General Council.

Powers and Functions of the Executive Council

8. (1) Subject to the general control and direction of the General Council and subject to such limitations as the Government of India may impose from time to time, the Executive Council shall have powers in respect of all matters connected with the Institute including

(*i*) the manner in which to carry out the purpose of the Institute,

(*ii*) the preparation and sanction of budget estimates,

(*iii*) sanctioning of expenditure,

(*iv*) entering into and execution of contracts on behalf of the Institute,

(*v*) recruitment of staff, and

(*vi*) investment of the funds of the Institute.

(2) The Executive Council may, by resolution, appoint one or more committee or committees, sub-committee or sub-committees for such purposes as may be specified by it.

(3) The Executive Council of the Institute may, by resolution, delegate to the Chairman or the Director or to both, such of its powers as it may deem fit for the conduct of business.

Treasurer

9. The President shall nominate a member of the Executive Council as Treasurer of the Institute and he shall be responsible for all moneys received and payments made by the Institute.

Bye-laws

10. The General Council of the Institute may frame, alter or repeal bye-laws for the proper conduct of business of the Institute for which no specific provision has been made in these rules. Such bye-laws shall be passed by the General Council by a majority of not less than 3/5ths of the members present.

11. For the purpose of Section 6 of the Societies Registration Act, 1860 (as applicable in the Union Territory of Delhi), the person in whose name the Institute may sue or be sued shall be the Director of the Institute.

Certified to be the correct copy of the Rules and Regulations of this Society.

1. Sd./- L. P. SINGH.
2. Sd./- PITAMBAR PANT.
3. Sd./- R. PRASAD.

NEW DELHI;
The 27th January, 1962.

APPENDIX VIII

(*Vide* para 60)

A brief note furnished by the Institute of Applied Manpower Research indicating the position of Research Institutes in foreign countries

So far as is known, there is no Institute in any other country dealing exclusively with manpower research. However, most countries, developed as well as developing, have been concerned about the problems of manpower development and utilisation and have supported research activities concerning these problems in relation to their own specific needs and conditions. As in India, these activities are carried on within governmental organisations as well as outside, chiefly in Universities and professional institutions.

A number of international organisations are also concerned with manpower activities and research. Important among them are: The International Labour Organisation, UNESCO and the Organisation for Economic Cooperation and Development (O.E.C.D.).

The broad organisational features of manpower activities in some selected countries and international organisations are described below.

2. In the U.S.A., a Manpower Development and Training Act was passed in 1962 which provides for the appointment of a Manpower Administrator. The Administrator is required to report to the President on the nation's manpower requirements, resources and training arrangements. This report is placed before the Congress of the U.S.A. The Secretary of Labour, who functions as the Manpower Administrator, also reports on the research and training activities taken up under the provisions of the Act. The Secretary of Health, Education and Welfare submits a report on the evaluation of research and training programmes taken up under this Act. The two reports provide the Government with basic manpower information and future programmes of action.

The Office of Manpower, Automation and Training in the Department of Labour functions as the chief coordinating agency in the manpower field. This Office has also the main responsibility for manpower research.

Research into manpower problems is also conducted by a large number of agencies outside Government. The National Science Foundation carries out detailed studies into various aspects of the manpower problem. In 1960, it carried out a detailed investigation regarding scientific and technical personnel in industry. In 1961, it undertook a study of the long range demand for scientific and technical personnel.

Universities and professional associations are also concerned with manpower research. Special mention may be made of the work done in the Princeton University on general problems relating to the demand for high level manpower under the guidance of Prof. Frederick Harbison. There is also an inter-university Research Programme on the problems of education, manpower and economic growth. A number of premier American universities are participating in this research programme.

Of the professional associations, one of the most active in the field of manpower research is the Engineers' Joint Council. Besides carrying out investigations, this Council publishes a quarterly bulletin entitled 'Technical Manpower'.

3. In the U.S.S.R., manpower problems receive consideration at all levels of governmental hierarchy. The Union Gosplan (corresponding in some ways to our Planning Commission) lays down the broad policies in regard to manpower considerations in economic development. Supporting research into various aspects of the manpower problem is carried on in specialised institutes *e.g.*, the Economic Research Institute, Labour Research Institute etc. There are a number of governmental committees at the Union level for the purpose of coordination *e.g.*, Committee on Labour and Wages, Committee on Vocational and Technical Training, Committee on Coordination of Scientific Research etc.

4. In U.K., organised research into manpower problems within Government has been recently initiated. A Research Unit has been set up in the Ministry of Labour for this purpose. This Unit is expected to remain in close touch with the work of the recently constituted National Economic Development Council (NEDC).

Important committees were set up in the past to enquire into specific manpower problems. Mention may be made of the study entitled 'Scientific and Engineering Manpower in Great Britain, 1956' and the 'Long Range Demand for Scientific Manpower, 1961'.

In February 1961, the Government appointed a Committee to review the pattern of higher education in Great Britain in the light of national needs and resources under the chairmanship of Prof. Lord Robbins. The report of this Committee, which has been recently published, is an important contribution to manpower research in the U.K. A good deal of supporting research was carried on for this Committee in various institutions and Government Departments. As a sequel to this research effort, a Unit has now been set up in the London School of Economics for continuing research into manpower problems. This Unit is supported by the Rockefeller Foundation.

5. In Europe, manpower research has been carried on in universities and specialised institutions for a long time. In France, the French Planning Commission, (Commissariat General du Plan) sets up specialised committees dealing with different sectors of manpower activities *e.g.*, demographic, educational, research etc. There are also specialised institutions *e.g.* Institut National d'Etudes demographiques (I.N.E.D.) and Institut National de la Statistique et des Etudes Economiques (I.N.S.E.E.), which deal with manpower research besides other subjects.

6. In Sweden, manpower planning techniques have been in use for considerable time. The Royal Labour Market Board, which is a tripartite organisation representing Government, Industry and Labour, is the apex body which deals with manpower policies. The Forecasting Delegation of the Board and its Forecasting Institute are two principal agencies concerned with manpower research.

International Organisations:

7. The I.L.O. has taken up several research projects in manpower planning. Some of these projects have been taken up on a collaborative basis with various countries. In addition, the I.L.O. supports and participates in research programmes in this field throughout the world.

The UNESCO has recently set up an International Institute for Educational Planning in Paris. Educational planning is one important aspect of manpower planning. This Institute is expected to undertake research into the various problems in cooperation with other U.N. Institutes and the Governments of various countries.

The O.E.C.D. have been organising manpower research activities in collaboration with member countries in Europe. Research

Study Groups have been organised by the O.E.C.D. into various aspects of manpower. Mention may be made of the Study Group on the Economics of Education, and the research projects concerning manpower assessments which are now under way in the countries of the Mediterranean region.

8. The organisation of manpower activities, specially research, can not follow a pre-cast pattern in any country. The organisational arrangements have to be evolved in a manner compatible with the general organisation of Government, the type of development planning which it undertakes, and the specific character of its manpower problems. No two countries are alive in these respects.

APPENDIX IX

(*Vide* para 64)

A note regarding broad conclusions which have emerged from the studies conducted by the Institute of Applied Manpower Research, New Delhi about the nature, characteristics and utilisation of human resources in India.

An important characteristic of human resources in a country is the age distribution of its population. The age distribution based on the information given by the respondents in any census or sample survey does not present the correct picture because of the existence of reporting bias. The census authorities overcome this problem by smoothing the age data. They do so in respect of the age distribution for all-India and the States but not at the district level. The Area Manpower Survey has made a pioneering attempt in this direction, by smoothing the age data in respect of Meerut district for 1951 as well as for 1961. It is true that the smoothing of age data at the district level has to make use of the characteristics of the population in wider areas like the States. Even so, the process throws useful light on the changes taking place in the age distribution of the population. For example, the age distribution of the population in Meerut district has changed for the worse in the decade 1951—1961. In 1951, the younger age group (0—15 years) accounted for 38·7 per cent of the population in Meerut district, the working age group (16—59) years accounted for 54·7 per cent. and the superannuation age group (60 years or more) accounted for 6·6 per cent. The share of the younger age group increased to 43·5 per cent. in 1961, while the share of the working age group decreased to 50·4 per cent. An increase in the share of the younger age group and a corresponding decrease in the share of the working age group imply an increase in the dependency ratio. In developed societies, the share of the younger age group is only about 25 to 30 per cent. while that of the working age group is about 55 to 65 per cent. The above figures show that the dependency ratio which was already high in Meerut district in 1951 has further increased in the decade 1951—61.

2. An increasing dependency ratio is the outcome of a high birth rate and declining death rate. So long as these causative factors

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[illegible] perate, the dependency ratio would also remain high. [illegible] factor that can influence the age distribution of an area is [illegible] A study of the population at national level has to take [illegible] international migration because migration within [illegible] does not affect the population of the country as a whole. [illegible] population of smaller territories within the country is [illegible] such migration also. The census tables in respect of a [illegible] data on in-migration but to obtain data on out- [illegible] from the census tables is very difficult. Therefore, other [illegible] the census survival ratio method, have to be made use [illegible] been done in the case of Meerut district and it has been [illegible] migration accounted for about 10 per cent. of the in- [illegible] the district population between 1951 and 1961.

[illegible] educational standard of the population measures the [illegible] which human resources have been developed through [illegible] institutions. The census data indicate distribution of [illegible] educational levels. The Area Manpower Survey [illegible] build an educational development index from [illegible] has been done by assigning a weight of 10 to per- [illegible] matric and above, a weight of 1·5 to persons who [illegible] below matric, a weight of 0·5 to persons who [illegible] below primary and a weight of zero to persons [illegible]. Values of the educational development index [illegible] not only for Meerut district and its rural and [illegible] also for all the districts of U.P. for purposes of [illegible] Further more, the educational develop- [illegible] India and all the States as well as for their rural [illegible] been calculated. It is seen that the values of [illegible] index for Meerut as well as India, [illegible] have nearly doubled in the decade 1951—61. The [illegible] has initiated this work with the idea of [illegible] building appropriate educational deve- [illegible] Indian conditions.

[illegible] providing education to all the children in [illegible] universally recognised in our country. [illegible] has considered the population of Meerut [illegible] year within this age group and has [illegible] percentage of boys and girls attending [illegible] the wide gap between the educational [illegible] a large school age population and the [illegible] facilities.

[illegible] education or training beyond the [illegible] have a proper balance between

general education on the one hand and vocational education and technical training on the other. Education at the secondary and higher stages in Meerut district is still loaded heavily towards general education. The Area Manpower Survey made a special study of the facilities for vocational education and technical training in the district. Information about these training facilities is not collected regularly in our country. The special studies of the Area Manpower Survey arrived at comparable data in respect of vocational education and technical training in Meerut district for the years 1951, 1961 and 1963. It is seen that although facilities of vocational education and technical training have expanded rapidly during the last ten or twelve years, they still account for only about 20 per cent. of the total number of students and trainees at the secondary and higher stages.

5. The process of utilisation of human resources depends considerably on the extent of co-ordination that exists between education and employment. The Area Manpower Survey made a detailed study of the problems of education-employment co-ordination in the case of craftsmen. Three types of studies were made for this purpose, one dealing with the supply aspect, the second dealing with the demand aspect and the third dealing with the supply-demand situation in the labour market. On the supply side, data from the training institutions were analysed and a follow-up study of the trainees was conducted. On the demand side, the experiences and views of the employers were ascertained. The supply-demand situation was analysed with the help of data from the Employment Exchange which indicated the number of candidates on the Live Register and the number of vacancies notified, filled and cancelled. These studies revealed that on the one hand, employers were not quite satisfied with the type of trainees that came out of the training institutions and on the other, the trainees themselves experienced a good deal of difficulty in finding suitable employment. The need for establishing a closer link between the institutional training and the apprenticeship training was highlighted by these studies.

6. Only brief comments on the state of development and utilisation of the important manpower categories are being made here. A large percentage of the working age population in our country is engaged in house work. The education level of these house workers (mostly women) is very low. As many as 90 per cent of the working age house workers in Meerut district were found to be illiterate in 1961.

Farm workers (including cultivators, agricultural labourers and others engaged in livestock, poultry, fishing and forestry) constitute more than 70 per cent. of the total number of workers in our country. Such a high proportion of farm workers is one of the significant indices of an under-developed economy. Considering the area of land available and the facilities for irrigation, double cropping etc., the number of farm workers is unduly large. It is natural, therefore, that farm workers experience seasonal unemployment and under-employment. The educational standard of our farm workers is also very low. As many as 75 per cent. of the working age farm workers in Meerut district were illiterate in 1961.

7. Non-farm workers in India form less than 30 per cent. of the total number of workers. Further, only a small proportion of the non-farm workers are employed in organised establishments, the rest being either self-employed or family workers or employed in very small establishments outside the organised sector.

Unskilled workers constitute a high percentage of non-farm workers in India. The educational standard of our non-farm workers, although higher than that of the farm workers, is still quite low. For example, as many as 60 per cent. of the working age non-farm workers in Meerut district were illiterate in 1961. Our resources of skilled manpower are so meagre that we are unable to meet fully the demand of our organised establishments in respect of skilled workers, although the quantum of demand in absolute terms is by no means large.

8. Information about workless persons in our country is of a very unsatisfactory standard. The Population census, the National Sample Survey and other sources which provide this information, give widely divergent figures in respect of the number of workless persons in the country. The figure commonly accepted is 9 million unemployed persons of working age in India in 1961. This means that about four per cent of persons belonging to the working age group in our country were workless at that time. However, since this figure is based mainly on all-India sample surveys, its break-up by States and regions is not available. The Area Manpower Survey has worked out a method by which this deficiency can be made up. It has obtained the same estimate of workless persons from the population census data as obtained earlier from other sources. This opens up a possibility of arriving at consistent figures of workless persons in respect of districts, regions, states and all-India.

9. The rapid growth of population which makes it very difficult to provide educational facilities to school age children also poses the

problem of finding enough jobs for all the new entrants to the working age. After allowing for all the withdrawals from the working age-group on account of death or superannuation, there is a net addition of about 2 per cent per year to the size of the working age-group. The economy of the area has to grow fast enough to absorb this net addition. The scope for additional employment lies mostly in the non-farm sector, because cultivators and agricultural labourers are already under-employed. Even in a district like Meerut where the non-farm sector was comparatively better developed, the annual net addition of 2 per cent. per year was not being absorbed in the non-farm sector. This resulted in an increase in unemployment and under-employment. These problems are bound to persist and would even become more severe if the rate of growth of population is not controlled in the very near future.

Although the working age group is customarily defined as terminating after the completion of 59 years, only a small proportion of persons aged 60 or more really retire from active life. In the case of Meerut district, as many as twothirds of persons in the superannuation age group continued working either as house workers or farm workers or non-farm workers.

Although Area Manpower Survey in its present farm is a micro-level study pertaining to a district, its essential features are capable of being repeated in all the areas of the country. This would lead to a definite advancement of knowledge about the nature, characteristics and utilisation of human resources at all levels.

APPENDIX X

(*Vide* para 72)

A note furnished by the Institute of Applied Manpower Research indicating the lines on which the basic manpower statistics compiled by different government organisations, particularly, the Census Organisation call for improvement.

The Census Organisation, the Ministry of Education, and the Directorate General of Employment and Training may be said to be the most important among the Government organisations compiling basic manpower statistics. This note deels mainly with the Census Organisation. A brief discussion about the Ministry of Education and the Directorate General of Employment and Training is also given before stressing the need for comparison, co-ordination and integration between the different sources.

2. The Census Organisation compiles data relating to demographic, educational and employment characteristics. The important demographic characteristics covered by the census data are : age, sex, location and migration. The important educational characteristics shown by the census data are: educational level and whether currently studying or not. The important employment characteristics covered by the census data are: whether at work or not, industrial classification and occupational classification of workers and a classification of non-workers into the categories of students, house workers and others. Suggestions for improvements in respect of the compilation of data carried out by the Census will now be discussed in terms of the above characteristics in the demographic, educational and employment fields.

3. The first demographic characteristics covered by the census data is age. The most important aspect of compilation of data by age relates to "smoothing". The Census Organisation provides smoothed age data at the all-India level and also at the State level but not at the district level. It would be useful if the smoothing of the age data at the district level is also arranged. Further, smoothed age data for rural and urban areas should also be worked out. This is not done at present even at the all-India and State levels.

4. As far as the total population enumerated by the Census is concerned, its distribution by age groups is quite detailed. For

[illegible]ample, there is single [illegible] as well as urban areas. [illegible] [illegible]tion. The educational [illegible] [illegible] groups. For [illegible] [illegible]ification adopted [illegible] [illegible]ly four broad age [illegible] [illegible]–34, 35—59 and [illegible] [illegible]ups relating to [illegible] [illegible]ities are more [illegible] [illegible]ating to persons [illegible] [illegible] groups [illegible] [illegible] in respect of the age [illegible] [illegible]ause these [illegible] [illegible] the working age. [illegible] [illegible] in the age [illegible] [illegible] [illegible] what the [illegible] [illegible]power [illegible]

5. [illegible]

6. [illegible]

7. [illegible]

8. [illegible]

9. The census tables provide a fair amount of details about workers. However, the information about non-workers is comparatively very small. It would be useful if a cross-classification of non-workers by age, sex, location, migration and educational level is given. It would be enough for purposes of this cross-classification to group the non-workers into three broad categories namely, students, house workers and others.

10. Besides the complete census which covers the entire population of the country once in ten years, there are two other channels for a more frequent flow of manpower information through the Census Organisation, namely, birth and death registration and the annual sample census. Regarding birth and death registration, it is necessary that the existing machinery is tightened up. It would also be helpful if the birth registration form now used in cities is adopted for use in villages and small towns also so that birth order data may be available in all areas on a regular basis.

11. The annual sample census should help in arriving at reliable estimates of birth rate and death rate, at least at the State-level, if not district-level. It is also necessary to study the demographic, educational and employment characteristics of new entrants to the working age. Entry into working age is not covered at all under the existing arrangements of manpower information supply. The three items of information that should be collected regularly in respect of new entrants to working age every year are: (i) the manpower cohort rate, that is the number of new entrants to working age expressed as a percentage of the total population, (ii) the manpower cohort educational pattern, and (iii) the manpower cohort employment pattern. If these items of information cannot be adequately covered by the annual sample census, arrangements should be made to cover them by other sample enquiries conducted by the National Sample Survey, etc.

12. The statistics compiled by the Ministry of Education are presented mainly in three publications, namely, Education in India (two volumes), Education in States and Education in Universties. A good deal of useful information is contained in these publications. Statistics of enrolment, out-turn, teachers and expenditure can however be used for additional analyses if the compilation of returns at different stages is geared for manpower planning.

13. *Enrolment.*—Separate figures of fresh entrants and repeaters constituting the total enrolment of different classes are not available at present. This gap makes it highly difficult to assess the extent of stagnation and wastage in education. It would be useful if total

enrolment in each class is broken up into freshers and repeaters. Also, the tables showing distribution of students by age and class need to be improved. As things stand some of the very young students appear as studying in higher classes and a few of the rather grown up students appear as studying in primary classes. A more correct picture of correlation between age and class needs to be presented.

14. *Out-turn.*—The out-turn figures do not at present show the levels of attainments (1st division, 2nd division and 3 division, etc.,) in different examinations. This gap renders a qualitative assessment of education rather difficult.

Number of students appearing at examinations for the first time should be given separately.

15. *Teachers.*—The number of teachers should be available by their ages so that replacement needs may be worked out. The number of teachers should also be available by stage of education so that budgeting of education by stages may be possible and the teacher-pupil ratios for different stages may be worked out.

16. *Expenditure.*—The expenditure figures should also be available by stages of education. For this purpose, the indirect expenditure will need to be classified the same way as direct educational expenditure. The per pupil and *per capita* cost of education should be further calculated for different stages of education.

17. Statistics relating to many of the institutions of vocational education are collected neither regularly nor in adequate detail. As a result, we do not know what the minimum prescribed entrance qualifications are for several of such courses, how long the courses last and what the status of those who have completed such courses is. Since vocational education must have an important role in the programme of diversification of education, detailed and regular information about all institutions of vocational education is necessary.

18. The Director-General of Employment and Training compiles useful data relating to organised employment on the one hand and registered unemployment on the other. No single publication, however, gives data for all-India showing details by States. Similarly, State level publications showing details by districts are not brought out. Such consolidated publications would greatly facilitate manpower studies.

19. In the field of organised employment occupational details are collected once in two years from all reporting establishments

covered by the Employment Market Information Programme. Since professional and technical personnel are largely concentrated in such establishments further details about their education, training, experience and fields of specialisation and actual employment could be usefully collected periodically. These additional details would throw light on the relationship between education, training, experience and employment in establishments of different types and sizes and thus facilitate manpower studies.

20. The unorganised sector provides employment to a larger number of persons in India than the organised sector. It would be useful if a survey of the unorganised sector could be conducted once in five years.

21. The Employment Exchanges under the Directorate General of Employment and Training maintain Live Registers of employment seekers and prepare a number of useful statements about 'registered unemployment'. It is known, however, that the correspondence between actual employment and registered unemployment is not perfect. On the one hand, the Live Registers include persons who are already employed and on the other, many unemployed persons do not enrol themselves in the Live Registers. It would be useful if the Employment Exchanges could find out, through regular enquiries, what proportion of the candidates on the Live Registers are already employed. Regarding unemployed persons who are not registered, it would be necessary to conduct comprehensive household surveys to determine the proportion that are not enrolled with the Live Registers.

22. The most significant improvement that is needed in the matter of compilation of basis manpower statistics by different Government organisations is that the different sets of data should be carefully compared and integrated. For example, information about students provided by the census should be compared and integrated with the information provided by the Ministry of Education. Similarly, information about non-agricultural workers provided by the census should be compared with the information about organised non-agricultural employment made available by the Directorate-General of Employment and Training. The difference between the two would yield useful data about the un-organised sector. Within the organised sector, information provided by the Directorate-General of Employment and Training should be compared and integrated with the information made available by the Inspector of Factories and the Department of Industries. Only in this way, will the accuracy of the data made available by the different organisations be checked and verified.

APPENDIX XI

Statement showing the Summary of Conclusions/Recommendations of the Estimates Committee contained in the Report

Sl. No.	Reference to para No. in the Report	Summary of Conclusions/Recommendations
(1)	(2)	(3)
1	5	The Committee observe that there has not been any appreciable change in the aggregate percentage of cultivators and agricultural labour to the total number of working force in the country during 1951 to 1961. It has only slightly come down from 69·76 per cent in 1951 to 69·73 per cent in 1961. It would thus be patent from the above that no progress worth the name has been made so far in reducing the percentage of cultivators and agricultural labour. The Committee would suggest that Government should assess the surplus manpower which is either unemployed or underemployed in agriculture so that the extent and magnitude of unemployment can be assessed. The Committee would stress that Government should take concerted measures to bring down the working force dependent on agriculture to the optimum level.
2	6-7	The Committee consider it regrettable that as a result of 'maladjustment between the educational system and the socio-economic needs of our developing economy', there has been increase in the number of educated unemployed side by side with shortage of trained personnel. The Committee regret to note that while the planners, as early as 1951, were able to lay their finger on the root cause of this phenomenon, proper remedial action has not been taken. This may well be due to lack of detailed analysis of the problem and failure to implement a concerted programme to achieve the objective.

(1)	(2)	(3)
3	8	The Committee observe that in comparison with advanced countries, India is far behind in respect of technical and medical education while there is preponderance in humanities and natural sciences in our university enrolment pattern.
4	9	The Committee regret to observe that no serious effort has been made by various governmental agencies concerned with manpower planning to work out long term projections which may facilitate the identification of the vital problems. The Third Plan has rightly pointed out that 'it may take twenty years or more to secure the required out-turn of scientific and technical personnel and build up the foundations of scientific research.' Admittedly, the education and training of technical and professional personnel take considerably long time. The Committee feel that manpower planning should have been taken up well in advance of the formulation of detailed plans and programmes of economic development. The Committee are of the view that the organisation charged with manpower planning should have the expertise and the requisite authority to formulate and execute manpower policy in keeping with the goals of economic development. The Committee would in particular like to stress the need for the formulation of a sound educational plan for the next fifteen years which may remove the widening 'maladjustment between the educational system and socio-economic needs of our developing economy' which has resulted in the increase in the number of educated unemployed side by side with shortages of trained personnel.
5	15	It appears from the general working of various committees appointed so far that attempts are being made from time to time to deal with only specific aspects of manpower problem, but without any attempt to have an integrated approach. On the basis of *ad hoc* enquiries, these committees have tried to work out manpower demand projections by correlating them to measurable variables of economy *e.g.* production/output levels, expenditure levels, investment targets etc.

(1)	(2)	(3)
		The Committee are concerned to note that two of the committees *e.g.* the Scientific Manpower Committee, 1947 and the Agricultural Personnel Committee, 1958 are stated to have respectively inadequate data regarding furture growth of economy, and no definite indication of the scope and size of the Third Plan or the resources that might be available for development of the agricultural sector or the order of priorities within the sector.
		They hope that committees set up to go into manpower requirements in future would have at their disposal all the requisite data necessary for the purpose.
		The Committee are convinced that there is need for having a high powered body to ensure a well coordinated programme for assessing manpower requirements in diverse sectors on a continuing basis and for taking adequate action.
6	16	In assessing requirements of personnel in different categories, consideration is being given mainly to three factors : (*i*) rate and direction of the growth of economy; (*ii*) rate of attrition of the existing personnel; and (*iii*) likely changes in norms of staffing due to changes in technology and the size and organisation of existing units.
		It is a moot point whether these factors provide accurate yardstick for projecting manpower demands in a developing economy like India. This vital problem needs systematic research and exchange of ideas and experiences with other developing nations.
		Since the requirements of personnel are reckoned mainly in terms of assumptions and possibilities, based on the past and current experience, it is obvious that unforeseen demands will continue to be thrown up on account of the rapid technological advances taking place within the country and abroad, and the growing needs of the economy. It will, therefore, be of particular importance during the Fourth and Fifth Plans to make periodic appraisal of the manpower situation in each of the fields so as to ensure adequate and timely remedial action. For these perposes, the technique and metho-

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		dology of Manpower Surveys have to be developed both in scope and content with gain in expereince and expertise.
7	17	The Committee consider it unfortunate that engineering personnel plans have been formulate on 'rough approximations' without taking into account the actual requirements. They are of the view that Government should pay immediate attention to the question of devising a suitable methodology of forecasting engineering manpower requirements so that a realistic programme can be made. Time has come when the demand for personnel has to be identified with greater precision and projections of requirements worked out not only by broad categories such as engineers, agricultural scientists, etc., but to be broken into diverse segments, e.g. design engineers, plant erection and construction engineers, production engineer, chemical engineers etc., to make for more realistic assessment.
8	18	The Committee would suggest that the Check-Listts prepared by the Directorate of Manpower should not be limited only go Government departments and public undertakings but should bring within the scope of its enquiry leading all-India non-official organisations of employers, manufacturers, engineers, medical practitioners, charatered accountants etc. who are vitally concerned with the problem of manpower.
9	22	Now that Government have formally constituted an inter-departmental committee to be called the Steering Group on Manpower for coordination of manpower work which in fact is the same 'Informal Steering Group on Manpower' referred to earlier in paragraph 19 with enlarged composition and functions, the exact scope as also the utility of work of the Sub-group on Manpower needs to be re-examined so as to avoid overlapping of functions between the two bodies.
10	33	The planning and administration of manpower programme is a task of great complexity requiring close and continued collaboration between various agencies at the Centre and in the States, especially those responsible for execution of planned development as well as leading institutions in the country engaged in scientific economic and social research.

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		While the Planning Commission may be able to determine the broad strategy of manpower development in relation to the nation's economic goals, a continuing review of shortages and surpluses of trained manpower and a systematic analysis of the factors affecting the demand for skilled personnel in different categories is very much needed.
		The Committee are of the opinion that the ultimate object should be to develop a high-powered organisation for Manpower Administration, capable of formulating and executing manpower plans, policies and programmes in a systematic manner and on a countinuing basis. At the same time, it should coordinate the work of different key-groups and take positive steps to keep pace with the demand for trained manpower generated from time to time as a result of progress of planned schemes.
		It should be the function of this organisation to (*i*) assess the requirements and availability of manpower resources of the public and private sectors within the framework of the perspective plan prepared by the Planning Commission; (*ii*) watch the implementation of policy decisions and undertake evaluation of their execution from time to time, (*iii*) achieve effective coordination of various governmental agencies dealing with manpower training and resources; and (*iv*) keep in close touch with and consult non-official research organisations, universities etc. regarding criteria to be adopted for accurately assessing requirements and availability of manpower resources.
		The organisation for Manpower Administration should make every effort in availing of the services of experts and consultants in this highly specialised field, but the effort in the main should be to build up a cadre of analysts and strategists who are well-versed in the Indian scene and attuned to the needs of a developing economy.
11	42	The Committee note with concern that there would be a sizeable gap between demand and supply posititition of engineering personnel during the Fourth Plan. The Committee would streess that Government should ensure that proper ratio among the three main categories of technical personnel, e.g. graduates, diploma holders and craftsmen is maintained in

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		desirable proportion in keeping with the requirements of the industry and advances made in the technological field.
		The Committee are struck by the wide gap existing at present betweeen the intake of students in the engineering institutions for degree and diploma courses and their out-turn which has resulted in wastage of manpower resources and also a shortfall in the available number.
		The Committee are convinced that it should be possible to reduce this high percentage of failure by intensifying efforts to improve teaching and practical training. They would also suggest that the feasibility of imparting training to students in evening classes and through correspondence courses as done successfully in other leading countries like Britain, Soviet Russia and United States should be fully gone into and courses suitable to Indian conditions evolved.
		As regards the diploma courses, Government should also examine whether it is possible to run intensive "sandwich" courses for skilled and highly skilled artisans to equip them to become diploma holders.
		The Committee understand that in countries like Britain and United States, the leading industrial organisations run systematic courses for in-plant training which equip an apprentice joining at the shop level to rise through merit and intensive application to the highest rung of management. The Committee feel that though some significant effort has been made by some public undertakings, the private sector has by and large not paid proper attention to this vital aspect of manpower training. The Committeee would suggest that Government should take direct interest in the matter and encourage the leading organisations of employers and manufacturers to run either singly or jointly suitable courses for in-plant training.
		The Committee would stress that the training should not be limited to the requirements of the Apprenticeship Act, 1961 but should cover the whole gamut of technical personnel employed in industrial establishments, with payment of suitable stipends.
		As regards the shortfall in the category of craftsmen, the Committee feel that as craftsmen are the backbone of industrial development, no effort should be

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		spared to train up the requisite number. The Committee see no reason why it should not be possible to run either intensified courses in the polytechnics and industrial institutions or to suitably expand their capacities or multiply their number so as to ensure that there is no dearth in the basic category of craftsmen.
		Apart from the aforementioned sizeable gap between the demand and supply of engineering personnel, the Committee are afraid that if the various assumptions made in working out the requirements and availability of engineering personnel do not come up to expectations, the position might become more acute.
12	51	The Committee are glad to note that special stress has been laid in the Memorandum on the Fourth Five Year Plan on enlarging training facilities for different categories of medical personnel so as to accelerate the rate of future expansion of medical and public health facilities.
		The Committee observe that the expansion of facilities for medical education of different categories of medical personnel viz. doctors, nurses etc. has lagged behind considerably in comparison with similar expansion in other technical fields such as agriculture and engineering during the first three Plans.
		The Committee are of the view that determined efforts should be made in the Fourth Plan period to develop facilities for medical education on adequate scale so as to ensure that the chronic shortage of various categories of medical personnel does not continue indefinitely.
		The Committee would like to stress the need for maintaining and improving the standard of medical education for on this depends the health and well being of the nation.
13	53-55	The Committee observe that at the end of the third five year plan, there will be surplus of 2490 agricultural graduates in Uttar Pradesh, 355 in Bihar, 141 in Madhya Pradesh and 100 in Assam. On the other hand there will be shortage of 2233 in Madras, 648 in Orissa, 540 in Andhra Pradesh, 289

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		in West Bengal and 266 in Mysore. Furthermore, the chances for recruitment from surplus areas are not very encouraging as the success of extension services depends on intimate knowledge of local agricultural practices, regional language and local dialects.
		The Committee are not convinced with the reasons advanced by the Ministry as stated in para 54 which in fact demonstrably show the helplessness of the Directorate of Manpower in ensuring adherence to planned development.
		The Committee suggest that steps should be taken to correct the regional imbalance by suitably regulating the intake capacity of agricultural colleges in different States.
		The Committee are also of the view that the basic issue before the manpower planners is to establish direct relationship between the quantum of requirements of agricultural and allied personnel of different categories e.g. veterinary, animal husbandry, dairy, horticulture etc. and the targets of agricultural production in different States. At the same time, the problems of raising agricultural productivity as well as total production can be solved within a measurable period of time only by building up the necessary infra-structure consisting of extension services, task forces for developing agricultural research and agricultural education. The total demand for agricultural and allied personnel, therefore, must be viewed within the framework of a long-term perspective of development of extension services, agricultural research and agricultural education.
		The Committee would, therefore, suggest that a very careful assessment may be made of the requirements of agricultural personnel to strengthen the diverse fields of agriculture so that India can break through the neck of food scarcity. The Committee need hardly stress the need for maintaining strict standard of instruction in agriculture with adequate facilities for practical training so that the men going out of the portals of agricultural institutions fit in usefully in the field and contribute their mite towards increased production.

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		Institute of Applied Manpower Research, New Delhi
14	59	The Committee are of the view that the Institute should have drawn up the agreement before actually undertaking construction work of its building on the campus of Indian Institute of Public Administration. Government should also have taken into account this aspect before advancing money to the Institute.
		The Committee hope that Government will bear in mind this important aspect before making such financial commitments in future.
15	60	The Committee observe from the note given in Appendix VIII that the organisation of manpower activities, especially research, do not follow the same pattern in the foreign countries.
		If the organisation of manpower research has to be meaningful and effective, it should be evolved systematically in a manner compatible with the general organisation of government, the developmental nature of economy and the innate characteristics of its manpower.
		The Committee have been given to understand that the Institute of Applied Manpower Research is unique inasmuch as no other country has an exclusive Institute for manpower studies.
		The Committee hope that the Institute would prove its worth in making substantial contribution towards the planning of manpower resources and providing leadership to other Institutes in the field.
16	61	The Committee are not convinced with the reasons given by Government for assigning to the Institute a hypothetical role of providing 'stimulus to Universities'.
		The Committee are of the view that the right place for undertaking independent research is more within the walls of Universities than anywhere outside, particularly, in an institution where Government interests are dominant.
		The Committee consider that as the problems relating to manpower have a bearing on a very wide field of

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		economics, social development, planning, industrialisation, etc., the Universities with their manifold interests in diverse disciplines could play a significant part in evolving methods for projecting manpower requirements.
		The Committee suggest that now that the Institute of Manpower has gained some experience in work, it may prepare a list of projects in which research could be undertaken purposefully. This list could be discussed with the Universities and other academic institutions interested in the field of research and suitable research projects initiated on selective basis.
		The Committee hope that the use of the Universities would not only make for fresh and stimulating thinking on the subject, but would also provide the much needed agency for field contact and research.
17	63	While it may have been desirable from administrative point of view to take up a district close to Delhi for Area Manpower Survey, the Committee feel that Meerut which is situated in the industrial belt of Uttar Pradesh and within the influencing zone of metropolitan Delhi, cannot be construed a truly representative or typical district.
		The Committee would suggest that after the result of the manpower survey has been critically analysed, guide lines for undertaking such manpower surveys in other districts may be laid down. These guide lines should be further tested in the field by applying them in the survey of a district in each zone. The district in each zone may be selected in consultation with the respective Zonal Councils and should be as representative as possible of the conditions prevailing in that Zone.
18	65	The Committee note that the Area Manpower Survey of Meerut District, undertaken as a joint cooperative enterprise with the Uttar Pradesh Government, has generated considerable enthusiasm at the district level resulting in participation by two professors of the Meerut College and other college students.
		The Committee hope that it will be possible for the Institute to sort out topics emerging from the present Area Manpower Survey which will constitute the hard core of the second and subsequent phases of Area Manpower Surveys in other districts.

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19	66	The Committee hope that close liaison will be established between the Institute and the Perspective Planning Division of the Planning Commission through the Directorate of Manpower so that the Institute is kept concurrently posted with the latest thinking in perspective planning.
20	67	The Committee are glad to note that purposeful studies relating to development of improved methods and techniques for dealing with training and development of the existing work-force, educational preparation for employment, vocational guidance, identifying and developing highly talented persons; and forecasting demand and supply of manpower and connected matters, have been initiated by the Institute. They would suggest that the scope of the studies should be extended both in range and in depth so as to bring about an integrated system of education and training suited to industrial development.
21	72	The Committee are of the view that there is need for establishing closest possible working relations between the Institute on the one hand and the Census of India Organisation, Director General of Employment and Training, Ministry of Education and State Directorates of Technical Education on the other for the purpose of joint planning and mutual division of labour so as to avoid duplication of efforts in the compilation, analysis and interpretation of manpower information and statistics. The Committee would in particular stress that the different sets of data compiled by Government agencies should be carefully compared and integrated. For example, information about students provided by the census should be compared and integrated with the information provided by the Ministry of Education. Similarly, information about non-agricultural workers provided by the census should be compared with the information about organised non-agricultural employment made available by the Directorate General of Employment and Training. The difference between the two would yield useful data about the unorganised sector. Within the organised sector, information provided by the Directorate General of Employment and Training should be compared and integrated

1	2	3
		with the information made available by the Inspector of Factories and the Department of Industries.
		The Committee hope that the data and statistics contained in the Reports of the Agricultural Labour Enquiry Committees, undertaken in 1950-51 and 1956-57 and other Reports of similar nature would be suitably compared in order to get verified and accurate data. This would ensure availability of verified and accurate data which could be put to good use for the purposes of manpower planning.

APPENDIX XII

Analysis of Recommendations contained in the Report

I. Classification of recommendations:

A. Recommendations for improving organisation and working:

S. Nos. 1, 2, 4 to 8, 10, 14, 15, 18 and 20.

B. Recommendations for effecting economy:

S. Nos. 9, 11 to 13, 16, 17, 19 and 21.

C. Miscellaneous:

S. No. 3.

II. Analysis of more important recommendations directed towards economy:

S. No.	S. No. as per Summary of Recommendations (Appendix XI)	Particulars
1	9	By avoiding overlapping of functions between the Informal Study Group on Manpower and the Sub-Group on Manpower.
2	11	By reducing high percentage of failures in engineering courses and by intensifying efforts to improve teaching and practical training.
3	12	By maintaining and improving the standard of medical education.
4	13	By regulating the intake capacity of agricultural colleges in different States and correcting the regional imbalance in the out-turn of agricultural graduates.
5	16	By utilising the Universities in the work of evolving methods for projecting manpower requirements and to provide the much-needed agency for field contact and research.

S. No.	S. No. as per Summary of Recommendations (Appendix XI)	Particulars
6	17	Selection of districts for Area Manpower Surveys which should be as representative as possible of the conditions prevailing in the Zone, in consultation with the respective Zonal Councils.
7	19	By establishing close liaison between the Institute of Applied Manpower Research, New Delhi and the Perspective Planning Division of the Planning Commission.
8	21	By establishing closest possible working relations between the Institute of Applied Manpower Research, New Delhi on the one hand and the Census of India Organisation, Director General of Employment and Training, Ministry of Education and State Directorates of Technical Education on the other for the purpose of joint planning and mutual division of labour ande avoid duplication of efforts in compilation, analysis and interpretation of manpower information and statistics.

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